

THE RAILWAY GAZETTE
A Journal of Management, Engineering and Operation
INCORPORATING
Railway Engineer • TRANSPORT • The Railway News
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DISPATCH OF "THE RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE possesses the necessary permit and machinery for such dispatch, and any reader desirous of arranging for copies to be delivered to an agent or correspondent overseas should place the order with us together with the necessary delivery instructions.

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas, as they are stopped under the provisions of Statutory Rules and Orders 1939, No. 1440

TO CALLERS AND TELEPHONERS

Consequent on the war and the blackout regulations, as an emergency measure to assist our staff in getting home before it is fully dark, our office hours (without a lunch interval) until Saturday, February 10, 1940, are:—

Mondays to Fridays - 9 a.m. till 3.15 p.m.
Saturdays - - - 9 a.m. till 1 p.m.

With the object of conserving paper by avoiding the return of unsold copies, readers are advised in the interests of all concerned to place a regular order for THE RAILWAY GAZETTE either with their newsagent or direct with the Publisher

The Overseas Services of the B.B.C.

THE original B.B.C. Charter of 1925 contemplated a service within the United Kingdom only, and the first to be directed to an overseas audience was the Empire service, started in 1932, and made possible by the development of shortwave broadcasting. Like the home service, it was confined to the English language. The first foreign language broadcast undertaken by the B.B.C. was the Arabic service inaugurated at the beginning of January, 1938. In March, 1938, news bulletins in Spanish and Portuguese to Latin America were added, and in July, 1939, the programmes to Spanish America were extended to include entertainment material. On September 27, 1938, the day of Mr. Chamberlain's broadcast at the height of the Munich crisis, the B.B.C. spoke for the first time to a European country in its own language, when on that night it broadcast news bulletins in French, German, and Italian. At the outbreak of the war the following services were already well established: Arabic, French, German, Italian, Spanish (for Spain), Spanish (for Latin America), Portuguese (for Portugal), and Portuguese (for Brazil). Since then services in the following languages have been added: Czech, Greek, Magyar, Polish, Roumanian, Serbo-Croat, and Turkish. Within the Empire a daily bulletin is now broadcast in Afrikaans. At the present time a world programme with frequent news bulletins, primarily in English, incorporates the Empire service, but is more widely radiated than in peace time. It is transmitted on short waves almost throughout the 24 hours. A European programme, including news bulletins in many languages, is broadcast for 19 hours a day on short waves, and, during the hours of darkness, also on a medium wave length.

* * *

The Hilgay Crossing Accident

The accident at Hilgay station, L.N.E.R., on June 1, 1939, when an express from Hunstanton to Ely, travelling at about 60 m.p.h., struck a lorry at an occupation crossing, aroused considerable public attention owing to its serious results. The lorry was flung clear, but one of its front wheels apparently became caught up under the engine, at once derailing the bogie. Complete derailment of the engine and train followed, and the leading coaches were flung against wagons in a neighbouring siding, causing the death of four persons. Colonel Mount's report, in addition to its consideration of the particular accident (summarised on page 786), deals at some length with the whole question of the accommodation and occupation types of level crossing; because of the importance of the subject, we give a full summary of that part of the report in our Road Transport Section. Modern conditions are different from those obtaining when such crossings came into existence and, although the casualties experienced "do not justify an alarmist view of the risks involved," to quote Colonel Mount's words, the whole matter is of greater seriousness than mere casualty figures can indicate. Nevertheless, the statistics are of considerable interest, and, had peace been maintained, this report might have had some effect, but in present circumstances legislation is unlikely.

* * *

Pullman Car Results

Operating results of the Pullman Car Co. Ltd. for the year ended September 30, 1939, were seriously affected by the adverse travel conditions prior to the war, and by the fact that at the outbreak of war, on orders from the Railway Executive Committee, representing the Government, the whole of the company's stock ceased running, and receipts were entirely cut off. Since then a reduced service has been resumed on the Southern Railway, but no

cars are employed on the L.N.E.R. Only some 20 per cent. of the company's cars are now in service. In the Continental services the number of passengers fell from 105,130 to 81,659 and the receipts from £60,820 to £48,450. The total number of passengers carried in the 219 cars of the company was 968,260, a decrease of 16 per cent. in comparison with the previous year.

	1937-38	1938-39
Gross receipts	£ 277,232	243,956
Working expenses	215,456	201,576
Net receipts	61,776	42,380

After providing for debenture interest and depreciation there was a deficiency on the year's working of £4,400. The amount brought forward was £4,917, so that the amount to be carried forward is £517. The directors renounced all fees from September 1 last.

* * * *

Overseas Railway Traffics

Argentine railway traffics continue to improve except in the areas served by the Buenos Ayres & Pacific and the Entre Rios companies. In the 22nd and 23rd weeks of the current financial year the traffic gains have been 325,000 pesos on the Buenos Ayres Great Southern, 195,000 pesos on the Buenos Ayres Western, and 114,500 pesos on the Central Argentine. An improvement of over 4d. in the remittance value of the Uruguayan peso has benefited the Central Uruguay Railway, which in the two weeks has increased its traffics by £11,945 in sterling as well as by \$43,104 in currency.

	No. of Weekly Week	Traffic	Inc. or Decrease	Aggregate Traffic	Inc. or Decrease
Buenos Ayres & Pacific*	23rd	1,316	—	65	26,764 + 291
Buenos Ayres Great Southern*	23rd	2,366	+	72	43,834 — 1,098
Buenos Ayres Western*	23rd	808	+	124	15,811 + 1,194
Central Argentine*	23rd	1,775	+	23	41,655 + 4,374
Canadian Pacific	48th	951,200	+	143,800	27,509,800 + 1,447,600
Bombay, Baroda & Central India	34th	294,750	+	49,650	5,703,225 + 5,550

* Traffic figures in thousands of pesos.

Canadian Pacific gross earnings for the first ten months of 1939 amounted to £24,422,400, an increase of £966,200, and the net earnings of £3,709,800 showed an improvement of £1,034,400.

* * * *

The Mexican National Railways

Some improvement was recorded in the net earnings of the Mexican National Railways for the half year ended June 30, 1939. The figures now published show an all-round increase of 6.64 per cent. in receipts, accompanied by a rise of only 1.22 per cent. in working expenses, net earnings being over 43 per cent. better. Comparative figures are as follow:

	1938	1939
	\$	\$
Passenger receipts	13,547,462	13,967,215
Goods receipts	51,201,766	53,997,714
Express receipts	5,948,638	6,367,854
Total earnings	73,826,725	78,716,407
Expenditure	64,301,286	65,087,433
Net earnings	9,525,439	13,628,974
Ratio of working, per cent.	87.10	82.69

To net earnings a credit is added of \$3,859,011 from past administrations. Instalments paid for rolling stock supplied in the past absorbed \$6,179,511; renewals and betterments accounted for \$3,269,202. Back debts were \$3,624,876, and advances to the Inter-oceanic \$2,293,876, leaving only \$2,120,460 to be credited towards the 5.64 per cent. participation due to the Government. The system continues to be operated by the committee nominated by the workers' syndicate, and efforts are steadily being made to overtake the inherited arrears of maintenance. Track renewals are considered the most important and work is already proceeding with the relaying of the Laredo line with 112-lb. rails.

Light Railways in Netherland India

Reports to the shareholders in the various light railway and tramway undertakings in the Dutch East Indies show that there is no immediate prospect of any noticeable improvement in their fortunes. The economic situation has indeed improved a little, and there has been some advance here and there in traffic and receipts; nevertheless, the high cost of materials, in some cases still rising, and other burdens, compel the lines to carry on at a loss. They suffer very much from motor competition, much of it of the pirate variety. Efforts have been made to improve efficiency, and during the last few years many savings have been effected. Rates and fares have been modified as occasion demanded but attempts to secure higher fares have, in some cases, had to be abandoned after a short trial. The authorities have recognised the unfairness of much of the competition to which the lines have been subjected, and a certain measure of protection by regulation is now in force. All transport undertakings in these colonies depend much on certain special classes of goods traffic, such as sugar, and the progress or failure of particular industries exerts a marked effect on the light railway and tramway receipts.

* * * *

The Last G.W.R. Ramp

It is nearly 34 years since the first section of the original Great Western Railway A.T.C. equipment was brought into regular service on January 1, 1906, on the Twyford to Henley branch. Until 1929 there was none on the London main line beyond Reading, but in that year the first part of the general extension to all main lines was carried out. Now, as recorded in our issue of November 17, when we reproduced a photograph showing the fitting of the last ramp at Penzance, the work has been completed. This last ramp, by the way, is always "dead," the distant signal covering the approach to the terminus being fixed at "caution." The total track mileage equipped is 2,852, with 3,250 engines fitted (or to be fitted) and 2,114 ramps. A map showing the extent of the scheme appeared in our issue of April 22, 1938, page 797. The only other complete route to have A.T.C. in this country is the L.M.S.R. Bow—Shoeburyness line, nearly 37 miles, with the Hudd inductive system described in our issue of August 12, 1938, page 295. The same apparatus was selected for the L.N.E.R. Glasgow—Edinburgh line and although at the outbreak of war work was suspended, it is probable that it will shortly be carried to completion.

* * * *

Machine Tools and the War

The importance of the machine tool industry in time of war is vital, and because of the necessity of an enormously increased industrial production, much of which is foreign to the requirements of peace time, the problem of organising the machine tool resources of the nation cannot be exaggerated. Under the Ministry of Supply this problem has been tackled, and steps have been taken to ensure that the fullest use is made of every suitable type of tool. The output of new machine tools is being rapidly advanced, so that, compared with 1918, it is now almost incredibly greater. An important contribution to this increase has been made by linking the activities and plant of firms ordinarily engaged in other phases of engineering with those of the machine tool manufacturers proper. The standards worked to often require very fine degrees of accuracy and it is here that the advances made with precision gauging are now proving of inestimable value. The modern development of the machine tool owes much of its phenomenal rapidity to the introduction of tungsten-carbide cutting tools.

The Chapelon 4-8-0s Again

The formation of the S.N.C.F. has provided more fields for the Chapelon locomotives to conquer. We have referred already to the splendid results obtained on tests in the Northern, Eastern, and South-Western Regions; now it is the turn of the South-Eastern, and we publish elsewhere in this issue some details of test runs between Laroche and Dijon. Remarkable though these performances are in themselves, it is sufficient comment upon the reputation already earned by these 4-8-0s to say that the results are no more than one has come to expect. So we find No. 240.705 sustaining 67-68 m.p.h. up a 1 in 125 gradient with a tare load of 391 tons, and developing 2,000 d.b.h.p. continuously in the process. A still more remarkable feat was the maintenance, between the Laroche start and passing Les Laumes, 63.3 miles, of the 60-min. timing of the light Paris—Lyons special *rapide*, though the load on the test run, 660 tons, was more than double that normally carried. The decision to rebuild 25 more of the former P.O.-Midi locomotives specially for the Paris—Lyons section of the South-Eastern Region is a natural outcome of such excellent results.

* * * *

Tyre Contours and Smooth Riding

The riding qualities of a railway coach depend not only upon the springing system but also on the shape and condition of the tread and flange portions of the wheels. In the maintenance of the tyres greater use is nowadays being made of wheel grinding machines, and economies can be effected where such machines are available. The practice of grinding new wheels, as well as those which have been turned to restore the flange and tread contour, is worthy of serious consideration as it ensures such wheels being concentric, a matter of considerable importance where the riding qualities of railway passenger coaches are concerned. The process of grinding tyres to a fine and accurate finish entails greater expense, but the results, especially in the case of high-speed trains, are such as to make it worth while. The process was even recommended for special classes of freight trains running at increasingly high speeds in a report presented at the annual meeting of the Car Department Officers' Association held in Chicago last October.

* * * *

Advertising Extraordinary

If railway publicity literature has in recent years been growing more prolific, it has not attempted to reproduce the opulent appearance of some volumes issued when the art was young. We have lately been inspecting an official illustrated album of the former Great Central Railway, published about 1902, which with its large gold-edged leaves and stiff board covers of a rich red hue looks like the prize for some Victorian schoolboy of exceptionally repellent erudition and virtue. We wondered how a railway which had lately spent so much of its substance on building a line to London could afford to produce so fine a volume, and a casual glance did not give the answer. Soon, however, we noticed that a paragraph on the churches of Leicester was punctuated by some remarks on the satisfaction of the ecclesiastical authorities with the plumbing and glazing work of a certain firm in the town. Closer inspection showed a host of other advertisements similarly introduced. The company even offered itself as a foil, and added to a description of its restaurant cars some encomiums on a brand of table water which would allow "the rich foods to be gently tempered by a seductive aid to assimilation and incentive to digestion."

Railway Nationalisation

IT is reported with a persistence which suggests inspiration that the Government is seriously considering the nationalisation of the railways. In support of this proposal it is urged that the war provides as suitable an opportunity for the State to acquire the railways as it is ever likely to get. It is also said that in wartime, at any rate, "such vital arteries of transport and communication as railways must be under Government control," and that "it cannot be for the good of the community that such a monopoly as a main rail line should be controlled by any group of individuals, however public-spirited." Our own view of the subject was stated in a leading article last week in which we pointed out that the administration of a railway depends upon the policy of the control, and that experience demonstrated that there was nothing to choose between well-administered private and state railways. Why the present should be considered an opportune time for such an important change as that of the ownership of the railways of this country escapes us. Already control has been taken over for the duration of the war by the Government, and it seems an unnecessarily rash step at this critical moment in the nation's history to swop horses while we are crossing the stream. The British railways, it is generally conceded, have been as well administered as any privately controlled railways in the world, and that they have risen to the demands of the present emergency well should be guarantee enough that they can continue to do so. Such shortcomings as they may have shown in the past have been due mainly to the universal financial stringency of recent years, and, with this relaxed in accordance with the necessities of the present situation, and an over-riding Government control to assure that the national interest is treated as paramount, we can see no reason for anything that might in any way tend to interfere with the established management or to undermine the confidence of those whose duty it is to provide railway transport. Can it be that certain advocates of railway nationalisation realise that there is less chance of their theories finding acceptance in this country in times of considered policy, and see a hope of rushing through such legislation while the whole attention of the electorate is engaged on matters of more immediate urgency?

* * * *

Inflation

THE recent increase in the wages of over a million workers, which is supposed to enable them to catch up with the already rising cost of living, forces attention to the subject of inflation. With the experience of the last war, when the cost of living nearly doubled, those with fixed incomes naturally become alarmed, especially as one of the measures taken in the endeavour to avoid inflation is the imposition of heavier taxation. The problem is one of which no economist of note appears to have a solution. It arises partly from the inevitable increase in the amount of money in circulation, caused by the necessity to spend vast sums on the production of goods, such as armaments, which are not bought by consumers. Much of this money creates, by way of wages, additional demand for goods desired by consumers; and as, under the so-called law of supply and demand, goods for sale vary in price in accordance with the amount of money available for their purchase, their price goes up. There are in fact two limits to the price of goods, the lower being the cost of production below which the willing seller disappears, and the upper what the goods will fetch. The two best-known intended remedial measures consist in attempts to restrict profits, so as to control the upper limit of price, and attempts to reduce the purchasing power in the hands of

the people, also aimed at reducing the amount of money available at the upper limit. Both are difficult to apply, especially the latter, for it necessitates heavier taxation and the resistance of demands for increased wages. Neither of these supposed remedies, nor any other so far tried, does in fact avoid inflation. It has begun already, and experience teaches that no amount of objection will prevent workers from demanding increased wages as the cost of living goes up. They can, and do, retort that it is those who *first* permit prices to rise to whom complaint should be addressed. It will be recalled that among the earliest increased prices, before wages had risen, were those of gas and electricity.

The whole question is linked up with monetary policy and the original source from which money is derived. In this connection various significant statements have been made in Parliament, especially during the last twelve months, from which it appears beyond dispute that extra money required for armaments can be made immediately available to the Government by bank loans through the Ways & Means Account, and that such money is not *first* collected in taxation or abstracted from savings. The banking houses with which the Government deals provide the necessary advances by book entry, which shows not only a credit to the Government but, in accordance with double-entry book-keeping, an equivalent debit. It is the attempt to pay off the latter that necessitates increased taxation and the floating of Government loans. Thus the popular conception that Government expenditure is limited by the amount collected in taxation and other forms of revenue is seen to be erroneous, for the Government can spend up to the amount the banks will lend it, and the debt so contracted grows proportionately to Government expenditure. The £8,000,000,000 of the National Debt, about seven-eighths of which has been contracted in the last quarter of a century, is evidence enough of the truth of this statement.

Monetary reformers have hitherto mostly been looked upon as cranks, but there is a growing realisation that behind most of the apparently hare-brained schemes of such reformers there is a real problem awaiting solution. In the same period of a quarter of a century during which the National Debt has grown so alarmingly, there have been two Government Committees to inquire into finance, the Cunliffe Committee of 1918, and the MacMillan Committee of 1926. The reports of both committees threw a good deal of light on the method by which new money comes into existence. The raising of war loans during the last war was, for example, very clearly explained in the Cunliffe Committee's report, but this has received far less publicity, especially amongst the administrators of industry, than it deserves. It is probable that as we rise up the inflationary spiral, with its inevitable discomfort and concomitant problems, monetary policy will be forced into a new light which may reveal a new path to a condition of plenty and prosperity which reason tells us is justified by the development of modern machine industry. Only in such a condition can peace be assured.

* * * *

Madras and Southern Mahratta Railway

THERE was no change in the open mileage worked by this company during the year ended March 31, 1939, but the mean mileage was reduced in comparison with the financial year 1937-38 due to 262 miles of the metre-gauge lines of the Mysore State Railway having been transferred to the Mysore Government in December, 1937. Ten miles of Mysore broad-gauge line are still worked by the company. At March 31, 1939, the company and State Lines worked consisted of 1,119 miles broad gauge and 1,712 miles metre gauge. Other worked lines were 31 miles

broad gauge and 104 miles metre gauge, of which 51 miles belonged to the West of India Portuguese Railway. Gross earnings of company and State lines during the year under review amounted to Rs. 726.28 lakhs, an improvement of Rs. 37.41 lakhs. In the working expenses of Rs. 419.28 lakhs there was an advance of Rs. 16.48 lakhs, leaving net earnings of Rs. 307 lakhs which showed the satisfactory increase of Rs. 20.93 lakhs. "Worked lines" produced net earnings of Rs. 11.85 lakhs against Rs. 25.83 lakhs in 1937-38, mainly because of the transfer of the Mysore State metre-gauge lines. For the whole system gross earnings were higher by Rs. 5.12 lakhs, working expenses were reduced by Rs. 1.83 lakhs, and net earnings were bettered to the extent of Rs. 6.95 lakhs.

Earnings from coaching traffic were Rs. 16.61 lakhs less than in the previous year, but, after excluding the share of the Mysore State Railway (metre gauge), the decline in the comparable coaching earnings was Rs. 6.36 lakhs only. Notwithstanding the drop in earnings it was notable that the reduction in the total number of passengers was less than 1 per cent. Constant efforts in the form of cheap fares for week-ends, excursions, &c., continue to be made to hold existing traffic and bring new traffic to the railway. Total earnings from goods traffic amounted to Rs. 500 lakhs against Rs. 475 lakhs in 1937-38, and the increased weight carried was 212,000 tons or about 4 per cent. The comparable earnings for 1937-38, after excluding Mysore Railway earnings, were Rs. 458 lakhs, so that the real improvement in goods traffic earnings was about Rs. 42 lakhs. The increase was almost entirely in traffic in oil-seeds (groundnuts), the crop for two seasons being moved in one year. Some comparative figures for the whole system are given in the accompanying table:—

	1937-38	1938-39
Mean mileage worked	3,170	2,974
Passengers	33,007,437	32,823,159
Paying goods, tons	4,950,733	5,234,048
Operating ratio, per cent.	58.38	57.73
	Rs. lakhs	Rs. lakhs
Passenger receipts	214.54	199.69
Goods receipts	441.41	468.20
Gross earnings	749.33	754.45
Working expenses	437.43	435.60
Net earnings	311.90	318.85

Working costs were Rs. 1.83 lakhs less than in 1937-38. Deducting the share of the Mysore State Railway for 9 months of 1937-38 to arrive at a true comparison there was an increase of Rs. 4.63 lakhs. The increase of Rs. 3.94 lakhs in renewal and replacement charges was mainly due to 50 miles of track being relaid against 31 miles re-railed in 1937. In ordinary repairs and maintenance the increase was relatively small. The company's share of surplus profits for the year was Rs. 10,17,703 against Rs. 18,13,652 for the previous year, the reduction being the result of the smaller share allowed to the company under the revised contract. After deducting Indian income tax and supertax the figures were Rs. 7,95,081 against Rs. 14,25,058. The total distribution to stockholders (made up of 3½ per cent. guaranteed interest, ¼ per cent. reserve fund, and 2 per cent. stockholders' revenue account) will be 5½ per cent., as against 7½ per cent.

STANDARD HAND HAMMERS.—The British Standards Institution has just issued, in co-operation with the Edge Tools Manufacturers' Association, a specification for hand hammers (B.S. No. 876), which deals with joiners', engineers', smiths', stonebreakers' and boiler scaling hammers. The specification was prepared at the request of the Institution of Mechanical Engineers and is intended to cover all the hand hammers in general use. Copies can be obtained from the British Standards Institution, 28, Victoria Street, London, S.W.1, price 2s. 2d. post free.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Recovering Lost Time

North Western Railway,
Dunmurry House, Simla, S.W., India
November 24

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I was interested to read the article on the subject of recovering lost time which appeared in your issue of August 11, 1939. On the Kalka—Simla Section of the North Western Railway minimum station-to-station times have been laid down for trains and rail motors. The Kalka—Simla Section is a 2-ft. 6-in. gauge single line mountain railway, 60 miles in length, which serves the summer capital of India. The ruling gradient of the section is 1 in 33 (uncompensated) and the shortest radius of curvature is 120 ft. Many curves of this radius are on high gallery bridges and in tunnels. Traffic is usually heavy and frequently intense, as many as 25 trains being run each way daily.

The considerations which led up to the issue of the minimum station-to-station times were:—

(a) The very serious consequences which might occur from a derailment due to a driver running at excessive speed; and

(b) the fact that, in accordance with the rules for working sections with steep gradients, no time is permitted to be made up on the running time given in the timetable on descending gradients steeper than 1 in 50, and the fact that gradients are by no means regular.

Speeds on this section are slow and the limit of speed for rail motors is 18 m.p.h., passenger trains 15 m.p.h., and goods trains 15 m.p.h. subject to certain load restrictions, otherwise 9 m.p.h. For the convenience of drivers, minimum station-to-station times are issued with every change of timetable, and the maximum time permitted to be made up on every block-section by every train or rail motor is given. Allowance is made for slackening speed through stations which are non-interlocked, and the minimum time taken into account is half a minute. Drivers of trains and rail motors who for any reason are running behind schedule are expected to make up time up to the maximum permitted, and failure to do so is dealt with in the same way as loss of time. The making up of excessive time is considered a serious offence.

The issue of the minimum station-to-station times has helped considerably in the operation of the section and has enabled drivers to know what is expected of them. It has not, of course, had any effect in checking drivers who on

occasions travel at dangerous speeds over short distances, and other methods have to be adopted to discourage such men. Except on the most modern rail motors, speedometers are not used.

Yours faithfully,

D. McMULLEN, Major, R.E.,
Assistant Operating Officer

Railway Nationalisation

Hill Top, Frith Hill,
Godalming, Surrey
December 11

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Referring to comments in your issue of December 8 on railway nationalisation as discussed in the new film, if the concluding remarks summarise the discussion I agree with your criticism that the arguments are amateurish. The alternatives of the "best possible service for the public" or "convenience of the public" on the one hand and a "low operating ratio" or "good operating ratio" on the other are not necessarily contradictory, but do illustrate the difference of outlook in the running of State railways between those States like Germany which intend that railways shall not be a charge on the national budget, and those States which for commercial or political reasons have to subsidise their railways.

It is futile, however, to suggest that in the latter case the taxpayer in the long run does not necessarily have to make up any deficit, "the alternative generally chosen being an increase in the debt, which is in fact the equivalent of an increase in the capital," unless of course the intention is to default on the debt, thereby transferring the cost of the subsidy to the creditor—hardly a long run process. It is a pity that so misleading a point should have been introduced into a controversy which was presumably intended to be educational.

Yours faithfully,

H. OSBORNE MANCE

[The financial aspect of nationalisation was not part of the film controversy, but is one to which reference is worth making. Without there being any intention to default on capital debt, the fact is that, so far from the latter being repaid, it tends to grow. It is true, of course, that the utmost is always extracted from the taxpayer, but this is not necessarily enough to cover chronic deficits.—Ed., R.G.]

PUBLICATIONS RECEIVED

Information.—We have received a copy of the issue for December 1 of *Information*, described as "a weekly guide to current politics." This issue is devoted to arguments against the nationalisation of British railways, with which subject we deal in a leading article on page 759. It cannot be said that the case is well presented by *Information*, for it is confined mainly to assertions that existing State railways are badly managed. As a specimen of the baldheaded type of argument used the following paragraph may be quoted:

If the origin and development of the railways had been left to Government Departments we should still probably be travelling at the speed of Stephenson's *Comet*, in comfortless carriages and with the same uncertainty, irregularity and unpunctuality as on the State railways of Soviet Russia.

The disastrous experiences of other countries in nationalising railways, it is stated, should serve as an object

lesson to those who think they can use the war as an opportunity for introducing the system in this country. Unfortunately, the "outstanding examples" quoted refer only to financial deficits in the case of railways in Canada, Switzerland, Australia, France, and India, where, as our readers know, the service provided for the public is comparable with the best provided anywhere. It is regrettable that in a matter of such importance as this the brief was not better presented. A free copy of *Information* will be sent to any of our readers upon application to the publisher, the Anti-Socialist Union, of 58/60, Victoria Street, London, S.W.1. The ordinary subscription rates are 10s. 6d. annually, or 5s. 6d. for six months, both post free.

Trains, Tracks, and Travel. By T. W. van Metre. New York, U.S.A.:

Simmonds-Boardman Publishing Corp., 30, Church Street. 9½ in. × 6½ in. × 1 in. 341 pp. Illustrated. Price \$3.50 net.—It is a testimony both to the increasing interest of the average American in the railways of his country, and also to the remarkable rapidity of railway development in the United States, that five editions of this admirable book should have been called for since first it was published in 1926, and the fifth within three years of the fourth. Since the last edition the book has grown by 45 pages, largely taken up with the latest streamlined flyers, both diesel and steam-hauled, including a new chapter entitled "Streamline from Coast to Coast." More than half the photographic blocks are new, and the profusion of illustrations alone gives to the British student of railway practice a comprehensive idea of American railway engineering, operation, and rolling stock; among them in this edition are some colour plates showing the elaborate external finish of some of the most

recently introduced American streamliners. To British eyes probably the most interesting feature of the illustrative matter is the extraordinary novelty and diversity of the interior equipment of modern American cars, many of which are displayed; it is not surprising that such attention to the passenger's comfort and wellbeing has been a powerful factor in re-attracting custom from the roads to the railways. The text of the book is a simple explanation of American railway operating and equipment, by an author who obviously has a thorough acquaintance with his subject.

Daily Mail Year Book, 1940. Edited by David Williamson. London: Associated Newspapers Limited. 7½ in. × 5 in. 256 pp. Paper covers. Price 1s. net.—The fortieth edition of this useful book of reference was published on November 17. The first forty pages form a War Section, and deal with every phase of the war, and the various organisations formed as a result of it, in which most citizens are now involved. War and the crisis permeate every section of this work, which maintains its

customary high standard. Persons in all walks of life; who need to refer to such widely differing subjects as music, the peerage, "Hitler's Heirs Apparent," income tax, athletics, or any one of the thousand biographies of men and women of the day, must find it of increasing value. Railway references are somewhat curtailed in this edition, a few notes only being recorded under the section "Changing London."

Feeder Protection.—Close attention has been given in recent years to the protection of feeders, chiefly on account of the stringent conditions which have to be met. The latest form of the biased differential protection developed by the General Electric Co. Ltd., of Kingsway, London, W.C.2, is described in that maker's publication JD/8352.

Cable Repairs.—It is a common impression that a cable, whether it be a 33-kV feeder for a low-tension d.c. railway electrification or a 20-watt electric light flex, needs no attention from the day it is put in until the day when it is taken out. Booklet M. 110, issued by British Insulated Cables

Limited, of Prescott, Lancashire, explodes this idea, and gives concise instructions for the maintenance and repair of types K and L trailing cables.

Portable Compressors.—Probably few normal engineering equipments are required in larger numbers at the present time than portable compressor sets, and the three principal models made by the Consolidated Pneumatic Tool Co. Ltd. are described in catalogue No. 47 just issued. Driven by Caterpillar oil engines, they have capacities of 125, 210 and 315 cu. ft. of free air per min. to 100 lb. per sq. in. Particulars of the number of tools which each model will drive are given in tabular form.

Hardening by Welding.—The surface hardening of steel may be accomplished by electro-deposition—that is the depositing of a hard surface on the steel by the use of a special electrode which gives a face resistant both to shock and to abrasion. The properties and applications of such an electrode are described in a brochure M.16, just issued by Murex Welding Processes Limited, of Waltham Cross.

THE SCRAP HEAP

—AND THIS REALLY HAPPENED
At an inspection of the (L.T.) A.A. Regiment by its Colonel, the Rt. Hon. Lord Ashfield:—

Colonel: Were you with the board?

Private: No, sir, against!

Colonel: What's your grievance?

Private: None, sir! I won!

"From Pennyfare," December, 1939.

We understand that in civil life the private in question is a solicitor, and that he appeared in a successful case against the London Passenger Transport Board.

GERMAN RAILWAY MEMORIAL

The German Railwaymen's Association not long ago decided to erect a memorial at Tannenberg to the 25,573 railwaymen from the various German States who lost their lives in the 1914 war. The memorial was unveiled on August 24, 1939; it is of bronze, with various symbolic inscriptions, and is not far from the grave of the late President Hindenburg.

PECULIAR RAIL ARRANGEMENT ON CURVE

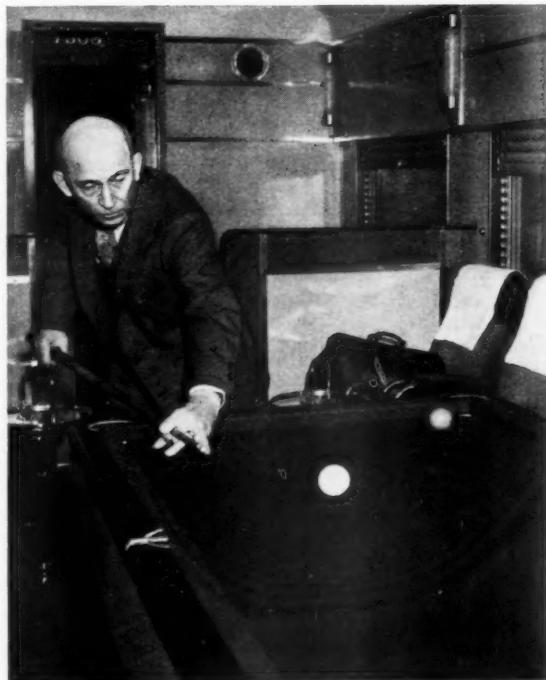
Our Dutch contemporary, *Spoor- en Tramwegen*, in its issue of November 25, 1939, reproduces a photograph of a peculiar piece of curved track to be seen near Weilerbach, on the German-Luxembourg frontier, where a branch from the Diekirch-Echternach line leads to a foundry situated on German territory. Conditions necessitated a very sharp curve at one point and the outer rail is replaced by a U-shaped trough. The outer wheels of vehicles thus run on their flanges, and presumably the greater distance covered per revolution by the larger diameter over the flanges

balances the shorter length of the inner rail, which is of the usual form carrying the wheels on their treads.

Mr. Lee Robinson, Superintendent of Equipment, Illinois Central Railroad, in his address to the Railway Fuel & Traveling Engineers' Association at Chicago in October, on the subject of "Maintenance and Operation of Parts and Appliances," referred to "the splendid record which has been made since 1920—an increase in freight-train speed of 53 per cent.; in gross train load of 29 per cent.; in gross ton-miles per train-hour, of 96 per cent.; in gross ton-miles per active locomotive, of 50 per cent., with a decrease in coal consumption per locomotive-mile of 14 per cent."

Thousands of individual Christmas gift boxes of Canadian apples have been dispatched by the Canadian National Express for delivery in the United Kingdom during the Christmas season.

These apples are larger than the ordinary commercial variety, and with the interruption of usual shipments as a result of the war, a particularly large and choice stock is now available. Apple growing is the mainstay of Canada's fruit industry; the value of commercial production averages more than £2,000,000 yearly.



The feasibility of playing billiards on a fast train was demonstrated recently on the Chicago & North Western's Viking by Charles Peterson, fancy shot expert

OVERSEAS RAILWAY AFFAIRS

(From our special correspondents)

INDIA

War Transport Board

An official communique has been issued by the Central Government, setting forth the functions of the War Transport Board recently established. The Chief Commissioner of Railways is the President of the board. As well as the representatives of the Railway, Quarter-Master General's, Commerce, Finance, and Defence Co-ordination Departments and of the Shipping Controller in India, representatives of other departments are invited to sit on the board when questions concerning them are under consideration. It will be the responsibility of the Transport Board to insure that, as far as possible, the supply of transport is sufficient to carry all essential traffic. The co-ordination of the various forms of transport so as to achieve the maximum economy is an important function of the board. It will also rest with the board to deal with questions affecting the availability and capacity of transport and with factors which regulate the movements of all classes of traffic.

The Shipping Controller for India is also the representative of the United Kingdom Ministry of Shipping in India, Burma, and Ceylon in respect of all U.K. register tonnage in Eastern waters. Tonnage on the Indian register will be controlled by the War Transport Board.

War Economy

It is understood that the Railway Board and the railway administrations in India are considering measures to bring under strict control all non-essential railway expenditure during the period of the war. It is already known that the management of the South Indian Railway has thought it desirable to defer the work of remodelling Tellicherry, Palghat, Olavakkot, Tiruvarur and Nidamangalam stations owing to the outbreak of hostilities.

Regirdering of Dufferin Bridge

The regirdering of the Dufferin bridge between Moghalsera and Benares has been on the anvil for many years. Detailed investigations on modern lines into the physical condition of the bridge have revealed that its strength is only 64 per cent. of M.L. Standard. Traffic over the bridge in its present condition is, therefore, liable to considerable restrictions. The scheme of regirdering, sanctioned in the budget for the current year, provides for double line girders to M.L. Standard together with road and footways. The railway portion of the work is estimated to cost about Rs. 56 lakhs and a small provision of Rs. 2 lakhs has been made for expenditure during 1939-40 on preliminary works.

Negotiations have been proceeding between the Railway Board and the Government of the United Provinces since the beginning of the year in connection with the roadway proposed on the reconstructed bridge. The Railway Board proposed that the cost of the roadway should be met from provincial revenues. After prolonged correspondence it has been arranged that a sum of Rs. 12 lakhs will be provided from the Central Road Fund and the balance of about Rs. 18 lakhs will be borne by the Provincial Government. Under the scheme of reconstruction, the roadway will be built above the railway tracks. The actual construction of the roadway will absorb a sum of Rs. 25 lakhs, and the approach roads will cost about Rs. 5 lakhs. The roadway will be about 25 ft. wide with a 4-ft. footway on each side. Maintenance of the structure generally will form a charge on the East Indian Railway but that of the road will be charged to the local revenues.

The Dufferin bridge forms part of an important highway, and vehicular traffic has had to put up with much inconvenience by reason of the frequent closing of the bridge. The existing bridge is primarily a railway bridge and it is only to be expected that train services must have precedence over other traffic. Normally there are over 50 trains crossing the bridge daily.

CEYLON

The General Managership

The Executive Committee of Communications and Works has decided to ask the Public Services Commission for an expression of opinion regarding a permanent appointment to the post of General Manager of Railways. In view of the fact that Mr. V. L. Dean, who was chosen for the post, had declined to accept it, the committee considered three courses open to it: to appoint a civil servant to the post; to recruit a new candidate from the applicants to the post; or appoint the present Acting General Manager, Mr. W. G. Hills.

There was a full discussion in regard to the filling of the vacant post. The Minister, Mr. J. L. Kotalawala, expressing his personal views, stated that he thought the best remedy for the present ills of the railway was to appoint a senior civil servant as its head. Failing to find a suitable man in the Civil Service, he was in favour of confirming Mr. W. G. Hills, who had been acting as the head of the Railway Department since the retirement of Mr. E. W. Head three years ago. He also stated that his view was that in such an eventuality a civil servant should be appointed as the Deputy General Manager.

The views of the Governor of the island, it is understood, are that the Railway Department is a highly technical one and, as such, a civil servant will not do, and that a capable and qualified man should be put in charge of the commercial section. Some of the members were strongly in favour of the appointment of Mr. Hills as General Manager with a civil servant as deputy. They also felt that the commercial section should be reorganised with a view to the adequate representation of public opinion.

Ultimately it was decided to seek the views of the Public Services Commission, and a decision was deferred until the next meeting. It is also understood that the committee decided not to recruit a candidate from abroad in view of the difficulty that might be experienced in securing a suitable officer on account of the war.

Closure of Matala Line Opposed

The Executive Committee of Communications and Works will shortly submit a report to the State Council recommending that the line from Kandy to Matala should not be closed down. The loss during 1937-38 on the section without paying any consideration to the revenue received from the carriage over other sections of the railway from traffic received from or sent to stations on the Kandy-Matala section was Rs. 235,211. But, the report points out, the Hammond Commission recommended that this line should be closed only if it had to be strengthened or new locomotives had to be purchased, and, even then, only when arrangements had been made with local carriers and estates for through booking of passengers and goods traffic between this section and other points on the railway.

NEW ZEALAND

£1 Million in New Rolling Stock for North Island only

Over £1,000,000 will be spent by the Railways Department in construction of rolling stock at the Otahuhu (Auckland) workshops in a programme that will be completed next March. The stock, which includes principally general utility wagons and passenger carriages, is all for use in the North Island.

The General Manager, Mr. G. H. Mackley, recently stated that considerable improvement in the rolling stock position had resulted from the progress made in the two-year programme to date. The most important item was the output during the last financial year, of 680 general utility wagons of the "La" type and 210 sheep trucks. In addition, 22 second class, four first class carriages, and six sleeping cars, were turned out.

During the current financial year, 363 goods wagons had been put into service by August 12, in addition to eight second class passenger cars and other wagons of various types. For the remainder of the present financial year it was expected that a further 687 general

goods wagons of the "La" type, 150 sheep trucks and 50 cattle wagons would become available for traffic. There would also be constructed a further six first class and twelve second class carriages, and ten wagons specially equipped for the chilled beef traffic which has become an important feature in New Zealand exports to Great Britain.

The expenditure on general goods wagons amounted to £492,185 and on sheep trucks to £121,860. The cost of the passenger carriages and other types of goods wagons, would approximate another £392,000, bringing the total, for the North Island only, to £1,006,045.

New Second Class Cars

Second class carriages of the latest type were recently introduced on the South Island main trunk expresses between Invercargill and Christchurch. The new carriages, which have large windows running almost the entire 56 ft. of the car's length, seat 59 passengers, compared with 37 in the present type of second class carriage.

The extra seating accommodation has been provided, not only by an increase in the length of the carriage, but also by reducing the width of the aisle to allow of two sets of double seats being placed abreast of one another. The new seats give ample room, and there is a large window opposite each. The partitions between the windows have been reduced in size, and the panes reach to a greater height.

The Centennial Exhibition

The New Zealand Centennial Exhibition was officially opened at Wellington on November 8, by Viscount Galway, the Governor General of the Dominion.*

CHINA

Reopening of Nanchang-Kiukiang Railway

The Nanchang-Kiukiang Railway has now been reopened for traffic under Japanese auspices. The line was very thoroughly destroyed by the retreating Chinese army and has taken a long time to rebuild and rehabilitate. It connects Nanchang—sometimes called the Chinese Aldershot before the war—with the Yangtze River.

North China Railways

Although many new lines have been projected by the Japanese authorities in connection with the railways in the occupied part of North China—operated by the North China Railway Company under close supervision of the Japanese Army—no construction and few surveys have been carried out, except the hurriedly-built strategic line from Peking to Kupeikou, the border town just inside Manchukuo territory, completed in the first months of the war in China. One important piece of work, however, has been completed in October, 1939, the conversion to standard

gauge of the Chengtai Railway. Built as a single-track metre-gauge line from Shihchiachuan (on the Peking-Hankow main line) to Taiyuan, it is 242 km. (150 miles) in length and serves the Ching Ching coal mines; for this reason the conversion is of considerable value.

MANCHUKUO

Railway Construction Since 1936

The five year plan of railway construction begun in 1933 is now practically complete. Additions in railway mileage during the last three years are the following:—

Lines opened in 1936		
	Km.	Miles
Pingchuan—Chengteh (Jehol)	97.4	60½
Mutangchian—Linkow ..	110.0	68½
Linkow—Mishan ..	170.9	106½
Solon—Nanhsingan ..	130.8	81½
Ssupingkai—Hsian ..	82.5	51½

Total length of line opened in 1936 .. 591.6 369½

Lines opened in 1937		
	Km.	Miles
Linkow—Chiamussu ..	221.5	138½
Noho—Mergen ..	93.5	58½
Taipingchuan—Lupei ..	192.3	120½
Nanhsingan—Hailun Arshan ..	15.4	9½
Ihsien—Hsinlinton ..	131.5	82½
Meiho—Tunghua ..	130.2	81½
Mishan—Hulin ..	160.9	100½

Total length of line opened in 1937 .. 945.3 591

Lines opened in 1938		
	Km.	Miles
Luanping (opposite Jehol)—Kupeikou ..	106.3	63½

Certain sections of these lines, totaling 313.6 km. (196 miles), though still under construction are being worked by the construction authorities, the principal lengths being the extensions of the Meihou-Tunghua line to the Korean border, and the Suihua-Shensu section of the Suihua-Chiamassu line.

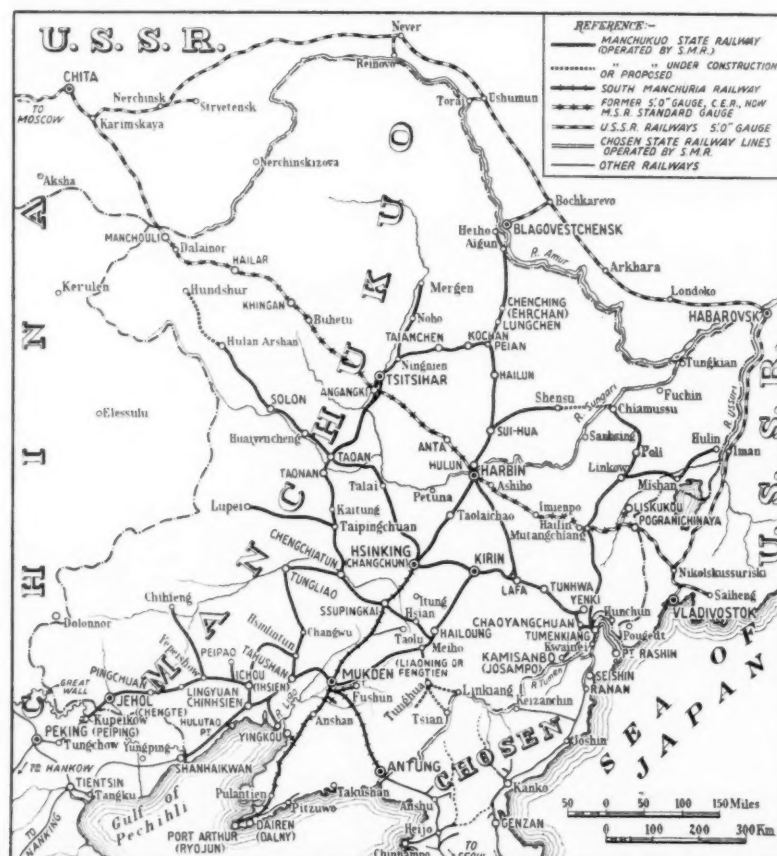
The total mileage in operation in Manchukuo is now just over 10,000 km. (6,250 miles), made up as follows:—

	Km.	Miles
State Railways in full operation	8,374.3	5,234
State Railways under provisional operation ..	313.6	196
South Manchuria Railway ..	1,129.1	706
Light railways, private lines, &c. ..	331.4	207

The map below embodies all the new sections of line. On page 780 are illustrated typical modern Manchukuo stations of various types.

Port Construction

The harbour construction at Rashin is proceeding, about one-third of the accommodation planned is now ready, but the entire port is not expected to be completed before 1948. An extension to Hulutao port, begun in 1936, will probably be completed next year. Work has begun on what is believed to be an ice-free port at Shishihkou, near the mouth of the Yalu River on the Korean border at Antung; five years' estimates have been approved for the carrying out of this project.



The railways of Manchukuo in operation, under construction, or proposed

* Described in our issue of September 8—Ed., R.G.

AUTOMATIC CONTROL OF WAGONS IN MARSHALLING YARDS

New system of working introduced in France

THE Eastern Region of the French National Railways has recently installed at the Vaires and Blainville yards a novel and ingenious system of gravity yard working, devised by M. Rabourdin, Chief Engineer of the Region, and after lengthy trials and investigations conducted with the co-operation of M. Massin, Engineer in the Stores Department. The following details are taken from a comprehensive article by M. Vinot, formerly Chief Engineer for Working of the Est Railway, which appeared in the *Revue Générale des Chemins de Fer* for June, 1939.

The object of the new equipment is to provide an automatic regulation of the movements of descending wagons in hump yards. The system is practically independent of human judgment, and so forms an effective means of preventing vehicles overtaking each other or colliding

normally de-energised relays RP and $RP1$, the contacts on which, the first normally open, the second normally closed, are in a circuit starting at an interrupter switch D , the cam x on which sends out impulses at a predetermined rate. When a wagon depresses bar P the impulse circuit is completed to a step-by-step switch, the electro-magnet E causing it to advance at a regular rate until the vehicle reaches bar $P1$ and interrupts the impulse circuit once more. The travel of the switch is thus inversely proportional to the speed of the wagon. Its lower bank of contacts is used to control certain electrical effects, represented for convenience in Fig. 1 by the connections A, B, C ; the upper bank, $Fr1$, serves, when power is applied at X , to bring the switch to normal.

The retarder equipment, or "appareil R," is formed of a series of unit devices, illustrated in Fig. 2. The skid Fn is operated by the motor Mn , travelling in a channel formed by a piece of rail alongside the running rail and passing clear of it when required by the turnout Gn . The two depression bars, described above, are also shown, with the rotary switch contacts $CRFn$, connecting through relays RFa, b, c , with the motor. The control of these

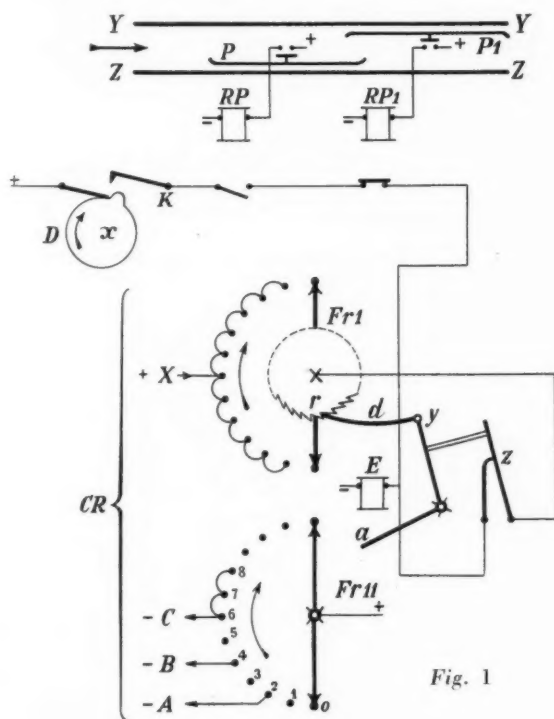


Fig. 1

with those waiting in the sidings to which they are being directed. The apparatus is based on the use of brake skid shoes, already much used in France in gravity shunting. This simple braking device acts proportionately to the weight of the vehicle engaging with it. A succession of these skid shoes is provided, each controlled by an electric motor through a length of cable, in such a manner as to be removable from the path of a wagon if the speed of the wagon is low enough to render braking unnecessary at that particular point. The motor also returns the skid shoe to its normal full braking position directly a vehicle, or series of coupled vehicles, has passed, all these operations being automatically controlled. This necessitates the use of some form of speed detector, able to register the speed of a wagon at the approach to a skid.

The principle of this device is shown in Fig. 1. Two overlapping electric depression bars P and $P1$ actuate

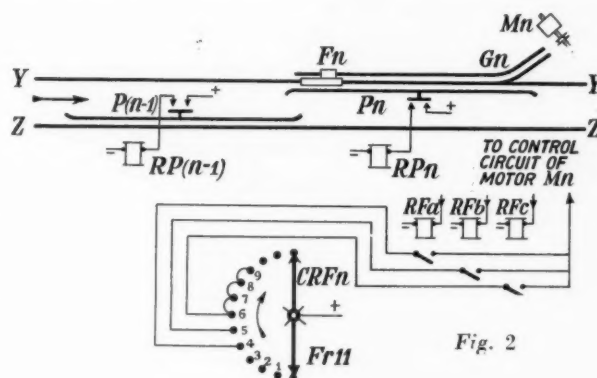


Fig. 2

relays is referred to below. The series arrangement of such units, constituting the "R" apparatus, is shown in Fig. 3. The first bar, $P0$, precedes the braking zone, each succeeding bar acting as the preliminary one for the next brake skid ahead, until the last. Each unit of the "R" apparatus allows of a certain amount of speed being absorbed for each vehicle passing over it, depending on its weight. The number of units to be placed in series is therefore decided by the speed and nature of the cuts to be handled. Hitherto it has been the custom to work in single vehicle cuts. Some 8 to 10 units have usually proved enough for one "R" apparatus in French practice.

The speed of a vehicle on leaving the "R" apparatus must naturally depend on the amount of free space remaining in the siding to which it is being directed. It

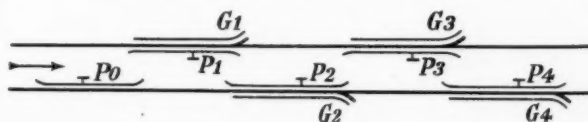


Fig. 3

must not come in contact with a standing wagon at a speed greater than 1.5 km.p.h. (0.93 m.p.h.). The mere occupancy of a near portion of a siding is not in itself sufficient to justify the braking of a vehicle, as such occupancy may be due to one moving at the same speed. It is necessary to make sure that a stationary wagon is concerned. For every speed on any particular section of the run there is a probable point of stoppage for a vehicle, a point which becomes more easily defined as it approaches the end of its run, and the position of this point determines the amount of braking effect to be applied to the following vehicle. Fig. 4 illustrates the principle of working of this part of the equipment.

Each siding is track circuited, on the open circuit principle, and divided into sections, Sp , $S(p+1)$, $S(p+2)$, &c., as shown. A speed detector device is associated with each section, only that for section Sp , and marked $CRSp$, being shown for clearness. These detector switches have three banks of contacts and begin to rotate as soon as a vehicle reaches the first controlling section, Sp in this instance, the impulse circuit being completed when relay RS/p picks up. The switch stops either when the vehicle enters the following section $S(p+1)$ or, if it comes to rest on section Sp , after a certain time interval has elapsed, relay RS/p being then energised from the second contact bank. The third bank controls relays (not shown), which themselves decide the action of the preceding brake shoe skids and apply, as it were, the requisite scale of braking to the following vehicle in consequence. It thus follows that this braking is dependent on the probable, or actual, stopping point of the wagon ahead, as revealed by its rate of passage over the insulated sections. If this is low enough to allow the rotary switch to reach contact TP the maximum retarding effect is imposed on the following wagon. The switch remains where it stops until the wagon leaves section $S(p+1)$. If it stops, thereon, however, it is restored when the switch for that section has rotated to the stopping position. As the wagons are proceeding over, or are standing on, the insulated sections, each such section has a rotary switch in the appropriate position, but the relays controlled thereby are so circuited that the motors governing the skids in the "R" appara-

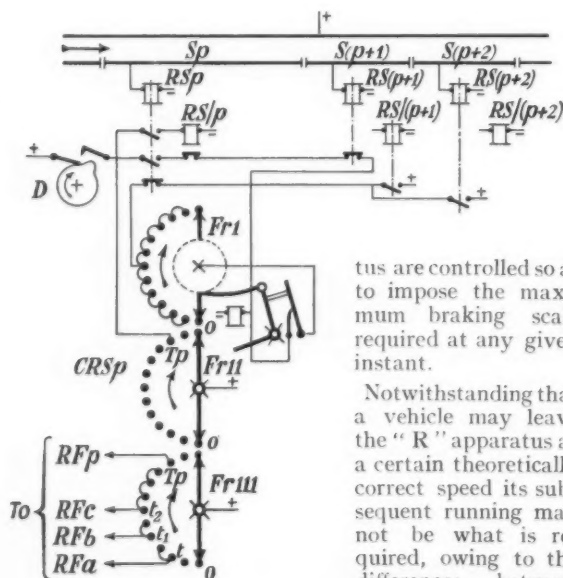


Fig. 4

tus are controlled so as to impose the maximum braking scale required at any given instant.

Notwithstanding that a vehicle may leave the "R" apparatus at a certain theoretically correct speed its subsequent running may not be what is required, owing to the differences between good and bad runners, or the influence of

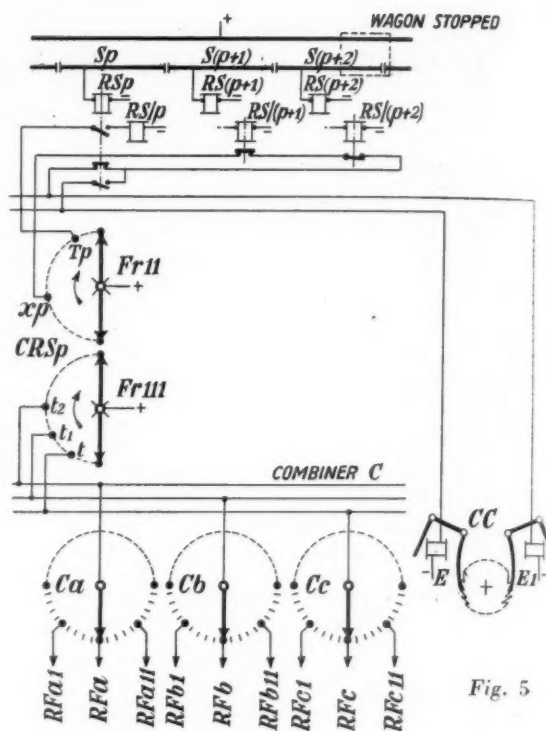


Fig. 5

the weather and other conditions, and it is necessary to include some means of varying the scale of braking to compensate for such effects. This is done by adding mechanism which functions on the basis of a comparison between the theoretical and actual speeds, made at a point at a given distance before the obstruction. This point thus moves back as a siding fills up and is always placed in the last section but one before the standing vehicle. The mechanism is called a combiner (*combinateur*) and varies the braking action according to whether the wagons run at the theoretical speed or not.

The working is shown in simplified form in Fig. 5. The rotary switch for the section Sp has a contact on its second bank, xp , which corresponds with the theoretical speed required if section $S(p+2)$ is occupied by a standing wagon. At the instant when this contact is made a circuit is established through relays $RS(p+1)$ down (no vehicle) and $RS(p+2)$ up (section occupied by vehicle *come to rest*) which passes to one or other of the electromagnets E and $E1$, according to whether the moving vehicle has or has not left section Sp , or is, in other words, going too fast or too slow. These electromagnets step the combiner mechanism round so that different brake controlling relays are brought into action. This working is subject to certain other limiting factors which need not be described here, general principles alone being under consideration. For example, means can be provided for making an overall increase or decrease in the braking scales, to meet changing local conditions. The circuits controlling the skid shoe motors are, of course, separate from those shown above and are omitted here for clearness.

This novel system of working which, it is claimed, enables a yard to be worked in total darkness, was installed on one track at Blainville in May, 1929, and 5 tracks at Vaires in 1934, and has functioned very satisfactorily. No difficulties have been experienced in maintaining the equipment.

ROAD TRANSPORT SECTION

This section appears at four-weekly intervals

The Petroleum Board

IN view of the high state of preparedness which Great Britain had achieved before the outbreak of war, various changes in the normal conduct of national commerce took place silently, and almost imperceptibly, at the beginning of September. One of the important changes which does not seem to be understood generally is that relating to motor vehicle fuel supply, probably because there are two entirely separate branches of the change, namely, the voluntary pooling of petroleum products, and the compulsory rationing of consumption. The latter aspect of the situation is only too well appreciated by all motor vehicle users who have been compelled to curtail their activities as the result of government rationing in order to conserve national stocks and supplies. The position of the Petroleum Board was stated briefly by Mr. Geoffrey Lloyd, the Secretary for Mines, in the House of Commons on November 14, in reply to Questions. He said that the Petroleum Board was formed originally by agreement between the Anglo-American Oil Co. Ltd., the National Benzole Co. Ltd., Shell-Mex & B.P. Limited, and Trinidad Leaseholds Limited, and their associated companies. The membership had since been enlarged, he added, and now represented substantially the whole of the petroleum industry so far as it related to the importation, storage, and distribution of oil products. The Chairman is Sir Andrew Agnew (a Managing Director of the Shell Transport & Trading Co. Ltd., and Chairman of Venezuelan Oil Concessions Limited), and the eight other members are:—

Mr. R. Beaumont, Deputy-Chairman and Managing Director of Trinidad Leaseholds Limited.

Sir William Fraser, (Deputy-Chairman of the Anglo-Iranian Oil Co. Ltd., and a Director of Shell-Mex & B.P. Limited.

Mr. F. Godber, Chairman of the Shell Union Oil Corporation of U.S.A., a Vice-President of the Canadian Eagle Oil Co. Ltd., a Managing Director of the Shell Transport & Trading Co. Ltd., and a Director of Shell-Mex & B.P. Limited.

Mr. F. L. Halford, General Manager and a Director of Shell-Mex & B.P. Limited.

Mr. A. Hittinger, Managing Director of the National Benzole Co. Ltd.

Mr. A. J. Singleton, Managing Director of the Texas Company of Ireland.

Mr. E. E. Soubry, a Director of the Associated Ethyl Company and of the International Association of the Petroleum Industry.

Mr. F. J. Wolfe, Chairman and Managing Director of the Anglo-American Oil Co. Ltd.

The Secretary of the Petroleum Board is Mr. H. E. Snow.

It should be emphasised that the Petroleum Board, which came into operation on September 3, is a voluntary organisation, but, nevertheless, it was established in compliance with the wishes of the Government, which approached the petrol distributors and asked them to prepare a scheme for distribution in the best way under emergency conditions. The method adopted has been for the parties joining the scheme to eliminate brands of motor spirit and to pool all their resources used in petrol distribution in the United Kingdom, placing them under unified control. This ensures maximum flexibility, and enables sudden demands due to abnormal circumstances to be met with a minimum of delay and disturbance. The Petroleum Board is concerned only with distribution in the United Kingdom. The responsibility lies with its constituent members for obtaining supplies, and for refining in the United Kingdom. The interests of the constituent members of the board are protected by an agreement

providing for sharing the trade proportionately on the basis of past performance over a prearranged period. The intention is that damage which may be inflicted by the war, either commercial or to material assets, should be borne proportionately by all concerned. Products distributed by the board include aviation spirit, motor spirit, benzole, kerosene, white spirit, gas oil, diesel oil, fuel oil, and asphalt. Lubricating oil is handled by a separate Lubricating Oil Pool. In undertaking storage and distribution in the United Kingdom the board operates to all intents and purposes as a single company, but the actual organisation varies a little between product and product, as the conditions of the trade make a completely uniform procedure impossible. Thus, with motor spirit, the Petroleum Board both delivers to garages for re-sale to the general public, and also sells direct to the actual user in the case of commercial consumers, in the same way as the distributing companies whose functions it has taken over. With gas oil, diesel oil, and fuel oil, it delivers direct to the actual user in the great majority of cases. With white spirit, on the other hand, the board confines its sphere to the operation of an Importers' Pool.

Road Tunnel Lighting

ALTHOUGH they are of common occurrence in railway engineering, tunnels for the passage of road traffic are comparatively rare. Nevertheless, those that do exist have a special importance because the great cost of constructing them has been incurred to give passage to major roads only, and the traffic density through them is particularly high. A study has been made of road tunnel lighting by the General Electric Company of America, and Mr. R. W. Swetland of that company has given some useful observations on the subject in the *Engineering News-Record*. Here, pictorial contrast is afforded between the spotty low intensity lighting provided in older tunnels and the uniformly bright lighting of new and modernised tunnels. By using sodium or other modern lamps in conjunction with a good reflecting interior finish of white tiles or paint, the lighting intensity can be brought up without increase of current consumption from an average of 0.5 to 1.0 ft. candles to 2.5 ft. candles or even more, and greater uniformity be secured at the same time. In one tunnel now under construction a level of 5 ft. to 7 ft. candles is contemplated. Several schemes have been tried out in order to obviate a sudden and dangerous transition from broad daylight to the relatively dim lighting in the tunnel. In some instances a covered-in tunnel approach has been built with window apertures that let in decreasing amounts of light as the tunnel proper is approached. Other tunnels have bell-mouthed entrances so that daylight penetrates a long way within. More generally applicable, however, is a system of supplementary lights near the tunnel entrances. Switched on in the day only, these provide a gradual transition over a space of 225 ft. from 125 ft. candles down to 3 ft. candles.

The Trolleybus Position

FEW will deny the extraordinary skill which has been put into the design and construction of trolleybus installations during the last few years, and an admirable summary of recent technical progress in the mechanical

and electrical equipments is given in Mr. G. F. Sinclair's paper which was to have been read before the Institution of Electrical Engineers on November 9. Nevertheless, although the service to passengers may be improved to an almost inconceivable extent compared with the preceding tramway, a trolleybus installation over virgin routes is still something for the future. If one may judge from Mr. Sinclair's paper, the principal reason for this is the heavy overhead charges compared with a fleet of self-contained buses. The usual trolleybus system simply takes over the capital charges which still remain as part of the accounting system of the previous tramways, and under these conditions may show financial parity with a service of diesel or petrol buses, whereas the magnitude of the financial charges to be debited to a new system would kill it straight away. These capital charges are concerned mainly with the overhead lines and structures, and, as Mr. Sinclair emphasises, the apportionment of the charges on a vehicle-mile basis varies conversely as the frequency of the service, whereas the maintenance of the overhead system increases to a limited extent with any increase in headway. From the Ministry of Transport returns it appears that the capital charges plus overhead-line maintenance cost per vehicle-mile vary from 0.6d. to 1.1d. on headways of 1 min. to 6 min., but in addition there may be a rating charge on the trolleybus system, the magnitude of which in some cases is decided by the local authorities. On the other hand, regulations in this country allow trolleybuses to be built to a weight one ton heavier than other forms of road passenger vehicles.

So much for fixed charges, which enable the internal-combustion engined bus to start with a clear advantage. As far as can be gathered, the maintenance costs of the two types of vehicles for equal seating capacities do not vary greatly; nor do capital charges on the vehicles appear to differ to any appreciable extent; which means that only in fuel costs can the trolleybus make up the deficit. But energy costs vary so greatly in different areas that nothing like a general ruling can be given. It is true that the extraordinarily high acceleration of the trolleybus may give an advantage in services with very short distances between stops if compared with, say, the normal diesel bus, especially as such duties show the diesel at its worst in maintenance charges and fuel consumption. But there is no evidence to show that a diesel bus could not be built to produce the same get-away, and the cost of the bigger engine necessary would be offset against the higher capital charges of the trolleybus system. Over certain heavily-graded routes the regenerative features of the electric system may reduce the cost of current; but the main advantages are the enhanced safety and greater operating control. As to the public, it has shown its appreciation of trolleybuses in no uncertain manner, because the new method of traction offers such outstanding service compared with the former trams. But if an effort were made to give a similar service by self-contained buses, would the service not be equally good? And is it not merely the fact that the old tramways are nearly written off that prevents trolleybus accounts from being crippled from the outset by financial capital charges.

Germany's Oil Supplies

The extent of Germany's ability to cover her requirements of oil in time of war is obviously a question of vital importance at the present time. For several years past it has been a cardinal point of German policy to prepare for a situation such as exists at present, and it is therefore of considerable interest to estimate what degree of success has attended these efforts to guard against the possibility of an oil shortage which would make it impossible to carry on a war. In making such estimates, it must be remembered that a rapid expansion in many directions has taken place in the last few years and that consequently statistics for the production during a given year do not give a true picture of the productive capacity, as new plants, which came into operation during that year, would not contribute a full year's production. Owing also to the rapid expansion of production, figures rapidly become out of date and are frequently out of date by the time they are published. As the result of a careful scrutiny of the position, Dr. A. J. V. Underwood, who is generally recognised as having devoted more than usual attention to fuel problems, has come to the conclusion that the German resources may be greater than we in this country have been led to believe. He sets out figures to substantiate his case in the course of a detailed article in the columns of our associated monthly, *The Industrial Chemist*, to which we are indebted for the following table. Dr. Underwood found it desirable to make two estimates of Germany's oil supplies. One of these relates to present production and includes plants known to be approaching completion and which will probably be in production by the end of this year. The second estimate includes plants which have been projected and are likely to be in production towards the end of 1940, or early in 1941. For the purpose of these estimates Germany, Austria, and Czecho-Slovakia are considered as a single unit. Poland is disregarded, as Dr. Underwood's information tends to show that the part of Poland in German hands can provide for its own needs, but not materially help the situation in the Reich. After reviewing the available sources of supply from natural and synthetic oil, from carbonisation, and from

substitute fuels, Dr. Underwood summarises his conclusions thus:—

	Present production. Tons a year	Potential production. Tons a year
Natural petroleum	700,000	1,000,000
Synthetic production	2,000,000	3,000,000
Benzole	500,000	600,000
Brown coal tar oils	200,000	400,000
Bituminous coal tar oils	250,000	400,000
Ethyl alcohol	200,000	200,000
Methyl alcohol, isopropyl alcohol, n-butyl alcohol, isobutyl alcohol, acetone, methyl ethyl ketone	100,000	200,000
Bottled gas	150,000	250,000
Producer gas from wood, charcoal, coke, anthracite	200,000	500,000
TOTALS	4,300,000	6,550,000

The oil consumption of Greater Germany (including Czecho-Slovakia) in 1938 amounted to 7,900,000 tons. This was a peacetime figure, but it includes, of course, heavy consumption on extensive military exercises. It is impossible to estimate the extent of wartime needs, the amount of Germany's reserve stocks, and the savings resulting from severe rationing of civil road transport and aviation. Obviously, however, Germany needs to import oil, and Roumania is her most important accessible supplier. During the first half of the present year Germany and Czecho-Slovakia imported 680,000 tons of Roumanian oil, representing 30 per cent. of Roumania's total exports of 2,230,000 tons during this period. Russia is the world's second largest producer of oil, with an annual production approaching 30,000,000 tons a year, but the amount available for export is comparatively limited. Exact knowledge of the available supplies of liquid fuel in Germany is probably impossible to obtain now that we are at war; and, of course, it is because of that state of war that we are all so interested in Germany's resources. Such knowledge, could we have it, would be of the first importance in arriving at any estimate of the length and intensity of that country's potential war effort.

Occupation Level Crossings in Great Britain

Colonel Mount's comprehensive review of the legal and practical aspects, appended to his report on the Hilgay accident

MODERN road conditions are so completely different from those obtaining when most occupation level crossings between road and rail came into existence that the whole matter is of greater seriousness than mere casualty figures can indicate. Fortunately, serious accidents at occupation crossings are comparatively infrequent, and in Colonel Mount's words "do not justify an alarmist view of the risks involved, and the incidence of casualty on the average shows little variation." It must be realised, however, that the kind of road traffic over many occupation type crossings involves a much greater risk to railway trains than existed years ago, so that an accident may have very serious consequences for railway traffic. The heavily laden motor lorry is a very different object to strike than any vehicle which was likely to use an occupation crossing in the pre-motor era, making such places a potential source of serious accident for trains. Nor must the road transport aspect of the situation be ignored, and both rail and road interests should welcome the comprehensive review of the legal and practical aspects of the question which Colonel Mount appends to his report on the circumstances of the accident which occurred on June 1 last at Cross Drove occupation level crossing, on the north side of, and adjacent to, Hilgay station on the Ely to King's Lynn line of the L.N.E.R.

The report is summarised at page 786 of this issue, so far as it deals specifically with the Hilgay accident, but Colonel Mount's general considerations are worthy of separate attention. He shows how important it is to consider clearly, and at an early date, what steps are required to place the position on a sounder footing, as in a number of ways the law is far from being in consonance with the needs of the time. The inability of the railways to oblige persons supplied with keys to use them, so as to confine the use of crossings to authorised individuals is a case in point, while the complications arising from custom and the changed character of various localities are far from being covered in any effectual manner. There is at present no specific obligation on the railways for safeguarding the movement of road vehicles and pedestrians at any accommodation or occupation intersection, and no powers exist to enforce the provision of additional safeguards for the travelling public. The railways are, of course, alive to the position and do take steps, such as the provision of warning apparatus, when they feel circumstances call for it. Colonel Mount's report emphasises that, should legislation be proposed to cover work of that kind, it ought not to bring with it added liability to the railways.

However, no warning device, notice board, or padlock, can be certainly effective in the face of gross carelessness, while gates controlled from a signal box are from time to time run into and smashed by drivers, even in broad daylight. Fundamentally, occupation level crossings are, of course, a violation of the principles underlying all railway conceptions of safe working, but there seems little possibility of seeing any great reduction in their number for a long time. It is to be hoped, however, that some steps will be taken before long, either to eliminate those where conditions call urgently for more positive protection, or to convert them to the public road type. In this connection, we commend to earnest consideration Colonel Mount's remarks and recommendations which we set forth in the following paragraphs.

The last serious accidents of this kind occurred in October and November, 1934, at Barkfield Lane (Formby) and Wharf Road (Wormley) occupation crossings, and the considerations bearing upon the risks involved, compared with the risks at the 4,560 public road crossings throughout the country, were dealt with by Colonel A. C. Trench in his reports dated November 12, 1934, and January 21, 1935, respectively. In the latter he said:

"I also suggest, though I am afraid it is too late to be of value in many cases, that local and road authorities should not adopt as public roads any occupation roads which approach a railway level crossing, until they have come to an agreement with the railway company as to the future status of the crossing, and the precautions which are necessary to permit of public user in safety."

Classification of Crossings

As a result of a recommendation made in that report, the railway companies collected data regarding the total number of accommodation and occupation vehicular crossings (accommodation works) roughly classified in respect of types of user; they were also asked to consider what practical measures were necessary for securing additional safety in future, and the means by which these should be brought into effect, in the interests of safety, and with fairness to all concerned. The following is a summary of the six categories of vehicular user, as described by the railway companies in October, 1937:—

(A) Crossings giving communication from field to field	18,615
(B) Crossings giving access between farm or private estate and public road	2,809
(C) Crossings giving access to land which now accommodates a factory, brickfield, &c., and which, owing to development, have now considerable user of heavy vehicles, but are still limited to the occupier, his agents, visitors, customers, and those having business with him	437
(D) Crossings giving access to land on which there are sports grounds, camping grounds, race tracks, &c., and other land used for recreational purposes and where a considerable user occurs intermittently or seasonally	85
(E) Crossings which in the course of years have acquired a public user and which have become in substance, though not legally, public crossings	224
(F) Other crossings not covered by the above	486
Total	22,656

In appropriate cases under categories (A) and (B) an improved form of warning notice (already in existence at many crossings), and in special cases a telephone to the nearest signal box, should meet requirements; but with regard to the remaining more heavily used crossings in categories (C) to (F), 1,232 in number, physical and perhaps legal conditions vary so much that individual consideration of appropriate measures for securing additional safety would be necessary in each case. The Hilgay crossing is classified by the L.N.E.R. under (E) as one of the 45 on its system which cross two running lines, and, as already stated, no agreement apparently exists between the company and the county council as to any restriction in user.

In view of the large number of level crossings concerned, it is desirable, briefly to refer to what is meant by the expressions accommodation and occupation, although cir-

cumstances at such crossings may be subject to wide variations. Accommodation works, such as level crossings, had to be provided under Section 68 of the Railways Clauses Act, 1845, "for the purpose of making good any interruptions caused by the railway to the use of the lands through which the railway shall be made"; this section also provides that a railway company shall at all times thereafter maintain such works, known as accommodation crossings. It must, however, be borne in mind that, when the line was built, owners and occupiers of land which was severed were at liberty to make such arrangements with the railway company concerned as they thought fit, and in many cases the compensation paid for severance was expressed to be in satisfaction of all accommodation works. In some cases also a company might have expressly covenanted to construct and maintain certain specified works, and again, in others, the scope of the user of the works might have been enlarged or restricted by agreement. When considering, therefore, the obligations of a railway company at any particular crossing, reference is necessary to the Act authorising the construction of the line, to the conveyance of the land to the company, and to any other relevant documents.

Again, a private occupation road or track used for farm or other purposes may have been severed by the railway, and, in order to make good the severance, an occupation crossing, namely, an accommodation work to carry the occupation road, was constructed and has since been maintained. Thus it may be said that this is the offspring of the ordinary accommodation crossing, and the equipment is generally similar, namely, gates made to open away from the railway with the necessary wickets or stiles. But there is the distinction that, in the case of the accommodation crossing, the only persons, generally speaking, who are entitled to use it are the owner of the severed lands and his tenants and licensees, whereas other persons, whose lands do not necessarily adjoin the railway, may have acquired rights to use the occupation road and therefore the level crossing for such road. In some cases also, an occupation road or track carries a public bridleway or public footpath, or both, and then the railway company has certain statutory and other obligations to the public, in addition to its obligations to the landowner and his tenants and licensees.

Suppression of Crossings

Although the Act of 1845 provides for an application to local Justices in the event of a company not constructing sufficient accommodation works within five years of the opening of a railway, no provision is made for similar procedure to enable a company to close the crossing should it consider this desirable; the railway company is therefore helpless when dealing with a stubborn occupier who insists upon the crossing being maintained, and there are no general statutory provisions with regard to the suppression of accommodation and occupation crossings, even when alternative access has become available. In fact, even if user decreases to nil, such crossings cannot be closed (except with statutory powers and/or under certain conditions mentioned below) without the prior consent of the owners and occupiers concerned, which consent, it is understood, usually costs money in compensation.

The position is that the right of the owner and occupier to use an accommodation work is an easement, and as such may be released or abandoned. A release is usually effected by written agreement and made in consideration of a money payment, but to bring about abandonment of the easement it must be shown that the owner no longer intends to exercise it. It has been held, however, that where the ownership of lands on each side of a railway becomes severed, and the right to use an accommodation

crossing is neither conveyed nor reserved, this is sufficient evidence of an abandonment to justify a railway company in removing the crossing; once this has happened, the easement has gone for ever. When considering, therefore, whether a crossing may be removed on severance of ownership, an investigation of title is necessary, and, in view of the distinction between accommodation and occupation crossings, it follows that, in the case of the latter, although there may have been severance of ownership without a grant or reservations, it is still necessary to ascertain what other rights exist.

The Burden of User

An important question affecting both types of crossing, is that the burden of the easement may not be increased substantially by altering or enlarging the character of the user. It has been held that a crossing originally provided to connect agricultural lands was not to be used, for instance, for the purpose of drawing stone across the line by a traction engine, or as a means of access by large numbers of persons to land which had been let to a club. It was thus shown that the user might become dangerous and such as to place an increased strain upon the company in managing its traffic so as to avoid accidents. On the other hand, there are cases where, voluntarily or by legislation, a railway company has given the landowner the right to use an accommodation crossing for all purposes, and the successor in title has erected houses on the land, thus entirely changing the character of user of the crossing.

In other cases, companies may be confronted with claims to public rights of some sort alleged to have been impliedly dedicated over an accommodation or occupation crossing, by reason of user extending over a considerable number of years, and confusion in consequence arises between that which is user by the public and that which is an increase in the burden of user by the owners and occupiers of adjoining lands. While, therefore, it has been upheld in the Courts that an occupier cannot increase the burden of user, it will be realised that in dealing with many places, insistence on such rights is likely to involve cumbersome procedure, and is merely a part solution of the difficulty.

The table opposite gives information regarding the incidence of casualty and derailment at accommodation and occupation crossings, as reported by the railways during the last 15 years. Though the figures do not justify an alarmist view of the risks involved, and the incidence of casualty on the average shows little variation, the fact remains that collisions with obstructions continue to increase, and those with serious consequences, which involve derailment and give rise to public criticism, recur at intervals every few years. Such accidents occurred at Shepreth in 1928 and at Wormley in 1934, and those responsible for causing them, as in the present case, were persons other than the trained and disciplined staff of the railway companies.

That is the main difference, as regards causation of accident, between the occupation type crossing and the public road type, the user of the former being the controller of the gates and primarily responsible for safety, while the user of the latter has every justification for relying on the railway staff to ensure him a safe passage when the gates, which they control, are open for the road. Further, as pointed out in the Wormley report, the disparity in risk at the occupation type crossing is not likely to grow less under present conditions; the increasing number of motor vehicles and higher rail speeds are two of the factors tending to increase the risk of derailment of the locomotive, and it must not be forgotten that narrow escapes are not reported. A few derailments also result

ACCIDENTS AT ACCOMMODATION AND OCCUPATION CROSSINGS

Year	Cases where Material Damage to Road Vehicles, or Collision with Animals has Alone Resulted	Cases in which Casualties Occurred	Cases in which Derailment Occurred	Analysis of Casualties						Total Casualties	
				Occupants of Road Vehicles		Pedestrians		Passengers and Servants			
				Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
1924 ..	17	10	4	6	9	7	—	—	—	13	9
1925 ..	14	13	—	8	9	6	—	—	—	14	9
1926 ..	12	18	2	7	7	7	—	—	—	14	7
1927 ..	19	29	2	7	12	8	7	—	—	15	19
1928* ..	22	30	1	5	15	8	5	1	23	14	43
1929† ..	23	14	—	1	7	5	2	—	1	6	10
1930 ..	17	23	3	3	13	11	—	—	2	14	15
1931 ..	17	14	1	2	6	6	2	—	—	8	8
1932 ..	17	25	—	4	15	8	1	—	—	12	16
1933 ..	20	23	2	7	14	6	4	—	—	13	18
1934‡ ..	19	27	1	5	18	5	2	3	24	13	44
1935§ ..	22	36	2	6	16	17	1	—	1	23	18
1936 ..	38	33	2	8	23	7	3	—	1	15	27
1937 ..	24	20	1	4	8	6	2	—	—	10	10
1938 ..	20	24	1	3	11	10	2	—	—	13	13
Average :											
1924-28	37		1.8	7	10	7	2	0.2	5	14	17
1929-33	39		1.2	3	11	7	2	—	0.6	11	13
1934-38	53		1.4	5	15	9	2	0.6	5	15	22

* Includes Shepreth.
 ‡ Includes Wormley.

† Includes North Belton Farm.
 § Includes Pontsarn—collision with cattle.

from collisions with animals which stray on to the line, probably through open gates at such crossings.

It cannot be denied, therefore, that the existence of this type of level crossing, particularly where there are two or more running lines carrying high speed traffic, is a potential source of serious accident. Although, in 1929, the Flying Scotsman at 60 m.p.h. struck and demolished a 4-ton unladen lorry at North Belton Farm without becoming derailed, the load of straw in a 2-ton lorry, struck at the same speed at Hilgay, 10 years later, by a train carrying 40 persons, resulted in derailment and four passengers being killed. Had it been carrying 400 people, the death roll might well have been 40. The results of such an accident are in fact purely fortuitous; a heavy locomotive at high speed may throw most of an obstruction to one side, as in the case under consideration, but a small piece of metal may catch in the track, or in the motion of the locomotive, and cause derailment and disaster.

If action is to be taken to secure additional safety at occupation type crossings, legislation may be necessary on a number of difficult issues, namely, to eliminate such crossings; to dedicate, equip, and control them for public use; to restrict the adoption as public roads of occupation roads leading to such crossings; to require the use of padlocks and keys for fastening the gates; to apply warning equipment to indicate the approach of trains; and to prevent an increase of user in the absence of safeguards. The late Sir Arthur Yorke probably had such matters in mind when he suggested that "some additions to the law are required," as the result of the accident on December 24, 1910, at Carr Lane occupation crossing, Bolsover, where increased, and public, user had occurred owing to local developments.

Elimination

In the interests of safety, some means are needed to facilitate the closing of occupation crossings where reason-

able alternative access is available. As there is power to acquire land for road widenings it would appear that the Minister of Transport should also have power to intervene where railway companies find it impossible to reach agreement with local authorities and persons having the right to use such crossings. Cases are not infrequent where owners refuse to agree to moderate compensation for closure. Just as it is necessary to acquire property for purposes of road widening and the relief of traffic congestion, so the elimination of the avoidable private user of these crossings should be facilitated on the railway, which daily carries heavy traffic at high speed.

Dedication

At the more heavily used occupation crossings, existing unsafe conditions have resulted in most cases from the greatly increased road traffic, and the railway companies hold that, in principle, they should not be expected to bear the cost of construction, staffing, and maintenance involved by converting such crossings to public type, apart from the fact that they have no statutory authority to carry out such schemes. Hilgay crossing is one which has been used publicly for some years, and apparently in the autumn is used more heavily than some public road crossings. The opinion was expressed in evidence that vehicles cross "every five minutes" in the beet season, and it would be well to consider the desirability of converting and equipping the crossing for public use, perhaps by remote control from the station box; but it must be realised that there are other occupation crossings where conditions are equally bad, and often worse, particularly in that they lack the excellent view available in this case. The incidence of cost for such conversion is not within the province of this report. There are 661 crossings in categories (C) and (E), of which 28 cross dense traffic lines and 360 cross two or more running lines; this makes a total of 388 crossings, the conversion of which to the public type would appear to justify early consideration, except

in the few cases where bridging in lieu, or road diversion, proves to be economically justified.

Padlocking of Gates and the Prevention of Increased User

No attempt has been made at Hilgay, during the last 25 years, to apply padlocks and to issue keys only to those legally entitled to use this occupation crossing, and apparently the road, at any rate for a certain distance, has been maintained as a metalled road by the local authority for a long time. The increased user of the crossing in recent years may be attributed more to the growing of beet and vegetables than to the County Council's policy of dividing its land into small holdings. The railway companies endeavour to arrange for level crossing gates to be padlocked and for keys to be issued only to authorised users; but in the absence of statutory powers to enforce this policy, it is resisted by users in many cases, inasmuch as the padlocks are frequently broken or removed and gates left unlocked or even open. Moreover, although Section 75 of the Railways Clauses Act of 1845 prescribes a penalty for neglect to shut and fasten such gates, it does not follow that they are to be fastened with lock and key. It has been held (*Macpherson v. Callander & Oban Railway Company*, 1887) that, to justify applying locks, a case of necessity, or of such high expediency as to amount to necessity, must be made out. It is true that this was many years ago, and the case had reference more to an occupation type of crossing, but there was nothing to indicate that persons other than the farmer had the right to use it, and it seems very important today that the railway companies should have the general power under penalty to insist on the locking of gates, and thus to restrict unauthorised user, particularly of crossings of accommodation type. There is obviously less difficulty in insisting on padlocks at crossings of this type, but, where there are numbers of persons entitled to traverse the line and to use a crossing of occupation type, such a safeguard becomes impracticable and other measures must then be considered.

Warning Equipment

Besides elimination, conversion to public use, or diversion, such arrangements may take the form of a traffic-light signal, an illuminated notice, or a bell, controlled automatically by track circuit or from an adjacent signal box, to warn road users of the approach of trains. The difficulties of such equipment were dealt with in the report on the Barkfield Lane accident,* and any legislation on the subject should have the effect of relieving the authority responsible for providing this improvement from any added liability therefrom.

Pending its conversion to public road type, the only suggestion made by Colonel Mount regarding Hilgay crossing is that, having regard to the skew of the road, the view from outside the gate on the west side should be opened up by the clearing of trees adjacent to the railway north of the crossing.

Comparisons of Practice

In the consideration of the general question of improving safety at unattended level crossings, attention is drawn to the comparative information afforded by the monthly bulletins of the International Railway Congress Association for April, July, and August, 1932. In any review of the conditions in this country, however, the high traffic density should be borne in mind, as compared with other countries; on the other hand, the high proportion of un-

attended crossings is offset by the more liberal facilities (without resort to trespassing) which are afforded for passing over and under railways.

The route-mileage of the four main-line railway companies, and of the Cheshire Lines Committee, is roughly 19,275, and traffic density was 21,700 (1938) train-miles per route-mile; this figure varied from about 17,850 for the G.W.R. and 19,000 for the L.N.E.R., to 23,250 for the L.M.S.R. and 32,850 for the S.R. Besides approximately 4,360 gated and attended, and 200 ungated and unattended, public road crossings, and 22,600 gated and unattended accommodation and occupation vehicular crossings, there are some 20,800 bridges and viaducts carrying railways over roads, and 19,600 carrying roads over railways.

In addition, therefore, to the location of level crossings (all types) at intervals of less than $\frac{1}{2}$ -mile on the average throughout the country, intersections with road (all classes), over and under, also occur at such frequent intervals as $\frac{1}{2}$ -mile.

Overseas Notes

Chinese Central Highway Transport Bureau

A Central Highway Transport Bureau, of the Ministry of Communications of the Chinese Government, was formally inaugurated in Chungking on August 1.

Hitler's Presentation Bus

Herr Hitler has presented the town of Varazdin, Yugoslavia, with a bus in recognition of the hospitality the town accorded Austrian Nazis who took refuge there after the assassination of the Austrian Chancellor, Dr. Dollfuss, in the attempted Nazi *Putsch* in Vienna in 1934. This information is contained in an Associated Press message from Varazdin dated November, 16.

Building Roads Across the Desert

An article in *The Sphere* recently described and illustrated a method of laying a plastic mat on sand. Highways of this type are being built at the rate of $1\frac{1}{2}$ miles a day across the Egyptian desert by the use of a machine which impregnates the sand with a bitumen waste product of oil, the track having previously been levelled by gangs of labourers. As the machine moves forward it discharges streams of hot bitumen, which, as it cools, binds the sand particles into a firm, elastic strip, no more than 2 in. thick but capable of carrying cars at 80 m.p.h. and even supporting tanks and guns. The cost works out at less than £500 a kilometre.

Egyptian Road Transport

There were 29,382 private cars and taxis in circulation in Egypt on December 31, 1938, and 4,074 lorries, buses, and coaches. The corresponding figures for the previous year were 27,221 and 3,991 respectively. These figures do not include Government vehicles. Restrictions on the licensing of commercial vehicles continue to be severe and no solution of the long-standing road-rail controversy has been reached. In 1937 the Road Association of Egypt was formed to represent the road transport industry and affiliated interests, and this association has been urging the authorities to formulate a co-ordinated policy in regard to transport generally. In March, 1939, a Transport Advisory Council was constituted for this purpose by the Government with representatives of the various ministries and departments concerned, including the Egyptian State Railways. It is significant that the present restrictions on road haulage have had the effect of reducing the number of commercial lorries and buses operating in Egypt from 5,323 (18.2 per cent.) out of a total of 29,249 motor vehicles licensed at the end of 1932, to 4,074 (12.2 per cent.) out of 33,456 at the end of 1938. This information is contained in the "Report on Economic and Commercial Conditions in Egypt," issued by the Department of Overseas Trade (H.M. Stationery Office, 2s. net).

* Summarised in THE RAILWAY GAZETTE of March 1, 1935, page 412.



General view of the derailed L.N.E.R. express at Hilgay on June 1, 1939, showing the level crossing at which it collided with a lorry. (See report on page 786)

Producer-Gas for Commercial Vehicles

A continuation from p. 642 of the November 17 issue of notes on the producer gas activities for road transport in this country and the types of plant available

By BRIAN REED

IN the five weeks since the Government demonstration of its own producer-gas plant for road transport purposes, the extension of producer-gas propulsion has merely followed normal lines. The Director of the Fuel Research Station, Blackwall Lane, London, S.E.10, has invited inquiries from manufacturers who may be able to undertake construction on a large scale, for the government design has been prepared for mass production involving the use of pressings.

Proprietary Applications

Meanwhile, operators are still fitting the well-known and well-tried proprietary makes, principally to the goods vehicles of the smaller private operators. But United Automobile Services Limited has equipped a 36-seat diesel bus with a Gohin-Poulenc plant, most of which was constructed at the company's Darlington works. The feature of this conversion is that not the slightest reduction in seating capacity has been necessary, although the plant is totally enclosed and housed at the rear of the vehicle in the luggage locker. Welsh anthracite is being used as fuel, and the travelling range is 200 miles. The same make of plant has been installed also in a 52-seat double-deck A.E.C. bus belonging to the Brighton, Hove & District Omnibus Co. Ltd.; it is fitted beneath the stairs at the rear end of the vehicle, and neither the space on the stairway nor the platform has been reduced. The engine is a Gardner 5LW diesel modified to run on producer gas, and arranged with the very high compression ratio (for producer gas) of 11 to 1. The daily work of the bus, about 90 miles over up-and-down routes, can be accomplished on about 5 cwt. of Welsh anthracite, and present fuel costs are estimated at 1d. a mile. It is this type of

plant which is fitted to Latil vehicles such as the Great Western Railway tractors illustrated in THE RAILWAY GAZETTE for September 22, and it is installed also in several lorries, such as Bedford 3-tonners, in which a run of 125-140 miles can be obtained on one filling.

Activities of Railway Associates

The United Company is a member of the Tilling-British group, and the Brighton & Hove organisation of the Tilling group. Taken as a whole, these groups, many of the constituents of which are railway-associated companies, have done more than any other operators to provide producer-gas passenger vehicles. One of the Tilling constituents, the Bristol Tramways & Carriage Co. Ltd., is running four such vehicles (as recorded in THE RAILWAY GAZETTE for November 17), but it also has a licence to manufacture the Gohin-Poulenc apparatus, and actually it made a portion of the plant installed in the Brighton & Hove vehicle. The Bristol company at the moment is concentrating on trials with the government plant. Tests with producer-gas passenger vehicles have been carried out within the last 12 months by the following members of the two groups, additional to those already mentioned:—

Thomas Tilling Limited, Caledonian Omnibus Co. Ltd., Eastern Counties Omnibus Co. Ltd., Eastern National Omnibus Co. Ltd., East Midland Motor Services Limited, Hants & Dorset Motor Services Limited, North Western Road Car Co. Ltd., Southern Vectis Omnibus Co. Ltd., Southern National Omnibus Co. Ltd., Thames Valley Traction Co. Ltd., United Counties Omnibus Co. Ltd., Westcliff-on-Sea Motor Services Limited, Western National Omnibus Co. Ltd., West Yorkshire Road Car Co. Ltd., and Wilts & Dorset Motor Services Limited.

Further installations are expected, and the Bristol works



Bonnet view, showing special carburettor of A.E.C. bus belonging to the Brighton, Hove & District Omnibus Co. Ltd. Powered by an 85 b.h.p. Gardner oil engine, it has been converted to producer-gas operation with a modified Gohin-Poulenc plant. No reduction has been made in the seating capacity, and the plant is mounted beneath the stairs at the back end

Right: 32-seat bus built by the Sentinel Waggon Works Limited, and equipped with H.S.G. producer-gas plant. Tried in cross-city service at Cardiff, it showed a mileage of 250 between refuellings, and a fuel consumption of 2.6 lb. of anthracite per vehicle mile



is understood to have in hand material for the construction of several hundred plants, suitable for fitting to a large variety of chassis powered by different makes of oil and petrol engines.

On November 24 a demonstration was given at Paisley of the new Enness producer, as fitted to a 2-ton Commer truck, a 12 h.p. Morris saloon with the plant at the rear, and a 21.6 h.p. Hudson saloon with the plant carried on a trailer. These three standardised plants weigh about 4½, 2½, and 3½ cwt. respectively, and the costs are reported to be £90, £65, and £80. This producer burns Welsh anthracite, and one fuel charge is sufficient for 70 to 80 miles. To overcome the loss in power, which is felt par-

ticularly on gradients, a hand throttle is fitted to enable a petrol supply and carburettor to be brought into operation when extra power is required. An application of a new equipment has been carried out in Lancashire, where the Preston Corporation transport undertaking is fitting a double-deck bus with a Hydrogas producer.

All of the early work carried out by Gilfords (H.S.G.) Limited was to commercial vehicles, and arrangements are now well advanced for the production of new producer-gas maximum-load, four-, six-, and eight-wheelers at a works in South Wales. Other recent applications of the H.S.G. plant are to light cars and vans of the 8-10 h.p. class. About 90 lb. of anthracite is carried in the hopper for this size, and this is sufficient for a journey of some 200 miles. Actually, about 25 lb. of this is required to keep the fire in good trim, and the running consumption is more like 65 lb. for 200 miles. Other recent applications of producer-gas to light goods vehicles are Brush-Koela plants, and the Dupuy plant of Gazogenes Limited to Thornycroft 4-ton lorries. The Bedford 3-tonners with Gohin-Poulenc outfit run about 130 miles on one filling, and the cost of the plant is approximately £100.

Experiments in South Wales

Carefully-checked experimental running with a lorry and a 32-seat single-deck bus has been undertaken by the Cardiff Corporation Transport Department. The lorry weighed 12 tons gross and was tried first with an H.S.G. plant and then with the Gohin-Poulenc. The fuel consumption averaged 2 lb. of anthracite a mile, and the fuel cost 0.536d. a mile with anthracite at 50s. a ton. Low-temperature coke of the Suncole type gave satisfactory results, but was somewhat dirtier than anthracite. The bus was placed at the disposal of Cardiff Transport by the National Industrial Development Council of Wales, and during the period of demonstration showed a fuel consumption of 2.6 lb. a mile in cross-city service. This vehicle is fitted with an H.S.G. plant. It is proposed to introduce two more producer-gas buses—one double-deck and one single-deck—on the Cardiff city services. Experiences gained with the two experimental vehicles were given by the Cardiff Corporation Transport manager, Mr. Wm. Forbes, in a paper read before the Municipal Passenger Transport Association in September.

Further activity in South Wales is expected to result from a resolution made at a meeting of the National Industrial Development Council of Wales at the end of November, to start an industry in South Wales to make gas and producer-gas plants for road vehicles.

(To be continued)



H.S.G. producer-gas plant installed in back of 32-seat bus operating in urban service

Town Gas as Fuel

High-pressure and low-pressure storage have been tried in the North of England for passenger and freight vehicles operating short-distance services

ABOUT seven years ago, after investigating experiments then being made in the use of high-pressure town gas in London, Birmingham, and France, the Newcastle-upon-Tyne & Gateshead Gas Company, under the direction of its chief technical officer, Mr. J. E. White, acquired from Vickers-Armstrongs Limited some high-pressure cylinders suitable for mounting on commercial vehicles and holding gas at a pressure of 3,000 lb. per sq. in. Other bottles suitable for storage at 5,000 lb. per sq. in. were obtained from the same maker for use as storage vessels in conjunction with a Belliss & Morcom multi-stage compressing plant.

Equipment for High-Pressure Gas

With the concurrence of Major G. W. Hayter, General Manager and Chief Engineer of the Northern General Transport Co. Ltd., a single-deck bus was equipped with the necessary cylinders and ancillary apparatus. After eight months of test bench work upon various engines, it was found possible to obtain from standard types of poppet-valve and Daimler sleeve-valve engines, almost the same power output as when operating on petrol. Exhaustive road tests were then carried out to determine the effective range of the vehicle and the general effect upon the high-pressure alloy-steel bottles, high-pressure connections, and associated equipment. The object from the outset was to provide by means of gas a fuel in every way as simple in operation from the driver's point of view as petrol. This led to careful consideration of pressure-reducing valve design, with the result that a reducing valve was developed capable of delivering gas to the mixer or carburettor at atmospheric pressure. The conditions found in the normal petrol carburettor were thereby reproduced.

From this stage numerous types of air/gas mixers were investigated, including those used in France and other submitted by Amal Limited and the City of Birmingham

Gas Department, but eventually a type was designed by the bus owner and gas company concerned which seemed to meet most closely the particular requirements. The question of sparking plug design and adaptation was carefully considered, together with a special means of upper cylinder lubrication which was found to be necessary in respect of certain types of engines operating at high revolutions.

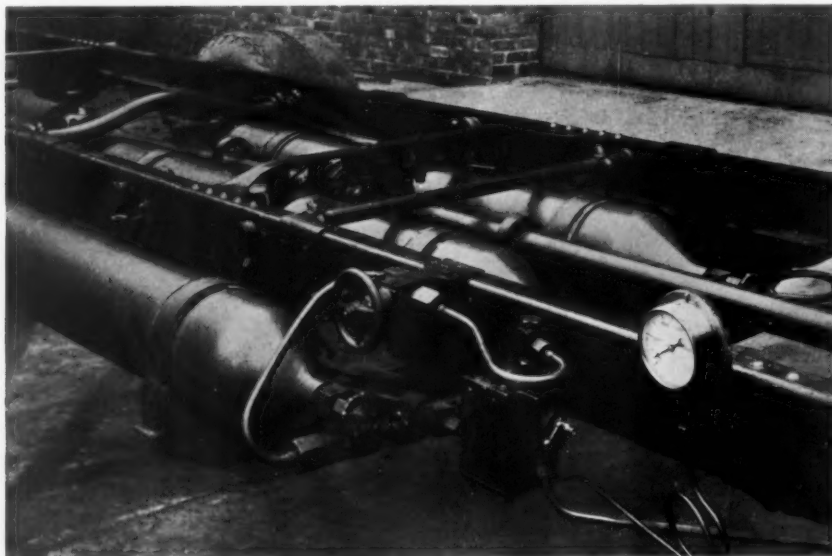
Road Service

After establishing under test bench conditions the circumstances which it was felt could be reproduced upon the road, the vehicle was passed out upon a series of road tests, and subsequently it operated in normal passenger service for a period of 12 months. The then existing road transport regulations prohibited the use of alloy steel bottles upon the roads at the required pressures, but the government departments concerned waived the regulations for the purposes of this experiment.

During the year the vehicle was in regular service, the reliability of the various components which had been developed was found to be satisfactory, and the development of a maximum power equal to that when using petrol was substantiated in everyday conditions. By the end of a year the ratio between gas consumption and petrol consumption had been firmly established as 262 cu. ft. of gas (of 500 B.Th.U's per cu. ft.) equal to one gallon of commercial motor spirit.

With gas supplied at 4d. a therm, and electrical energy at 0.6d. a unit for compression purposes, the cost per equivalent gallon was approximately 11d. This was based upon the redemption of the bottle equipment on the vehicle over three years, but the figure was increased subsequently to five years, and to a large extent this has offset the increase in the price of bottles which has taken place in the intervening years.

At the time of the experiments the diesel engine was



Details of the high-pressure bottles and connections housed on the chassis of a two-axle single-deck bus of the Northern General Transport Co. Ltd. The bottles shown gave the vehicle a range of 35 miles between re-fuellings

obtaining considerable notice, and it seemed that until some more clearly defined position had been arrived at with regard to the ultimate price of diesel oil and certain taxation elements which were not then clear, there was little object from the gas company's point of view in going ahead with the gas project upon a large scale. The Northern General Transport Co. Ltd., on its part, discontinued the experiment because of the short range—about 35 miles—per charge. Had there been compressing plants at the terminal points of the service it might have been possible to carry on, but the vehicle had to run off its route for half a mile to be recharged. No risk could be run of emptying bottles *en route* and leaving passengers stranded.

Low-Pressure Gas

Just before the beginning of the war the question had been reviewed again by the Newcastle-upon-Tyne & Gateshead Gas Company, but since September it has been felt that some time must elapse before high-pressure bottles or compressing equipment will be available. Therefore attention has been once again directed to low-pressure gas to suit the requirements of vehicles operating over a restricted range, and the gas company concerned is now equipping its own fleet of vehicles with gas bags holding 300 cu. ft. of free gas. A 2-ton vehicle so fitted has a range of 14 miles. It is claimed that the bags are inexpensive to instal, and that the vehicles can pick up a supply of gas at many points. The cost per equivalent gallon compared with petrol is given as 15d. to 16d.

Rubber-Container Project

Experiments are now being made by the gas company into the possibilities of medium-pressure containers of the reinforced rubber type, much on the lines of the heavy-duty tyre fitted to commercial road vehicles. The shape would be rectangular to suit the roof of the vehicle, and the investigators believe that storage pressures up to



General view of chassis of Northern General Transport bus equipped with high-pressure gas cylinders

100 lb. per sq. in. are practicable, but it seems likely that difficulty will be experienced in obtaining the containers during the present emergency.

Health of London Busmen

WHEN the drivers and conductors of Central Bus section of the London Passenger Transport Board withdrew their labour in May, 1937, the Minister of Labour referred the dispute to a Court of Inquiry, acting under the powers conferred on him by the Industrial Courts Act of 1919. The main dispute was in connection with the demand of the Transport & General Workers' Union for a 7-hour day, but in the course of the inquiry other matters relating to conditions of employment were considered, among which prominence was given to the effect of working conditions on health. The outcome of this was the appointment of a committee of inquiry, which has now finished its labours and presented a final report. The committee, under the chairmanship of Sir John Forster, consisted of representatives of the London Passenger Transport Board, the Transport & General Workers' Union, and the Medical Research Council. This report, issued by the Ministry of Labour on November 4, concludes from the "slender statistical data available" that there is no evidence of the working conditions of London busmen having become less healthy since 1931. It deals, *inter alia*, with the incidence of gastric illness among bus drivers and conductors, to which considerable prominence was given two years ago. In this connection the report says that the medical views obtained laid stress upon two general factors important in the causation of gastric disease, namely, irregularity of hours of work and meal times, and nervous anxiety and temperament. It is therefore suggested that consideration should be given first to the desirability of providing a longer interval

between changes of shifts of work; secondly, to making easier certain spells of duty which appear to be of too great duration before a meal relief; thirdly, to a reduction in the number of periods of meal relief which are of less than 40 min. long; and finally to the question of a stand time between journeys which should be kept under constant review in the construction and revision of schedules of duties. The report observes that some of the medical witnesses were under the impression that the type of food eaten by busmen on duty was frequently indigestible or deficient in nutritive quality, and that there was a general opinion that cigarette smoking was injurious to "gastric prone" individuals. Figures relating to the time lost by bus crews from illnesses of all kinds showed no material change in sickness incidence between 1931 and 1938. On the question of fumes, the general purport of a scientific witness's evidence was that the absorption of carbon monoxide—present in exhaust fumes—in small quantities is not harmful, and that it is possible for the human body to develop some degree of tolerance to limited quantities. Allowing for the increase in the average age of the men between 1931 and 1938 there was no evidence that the general health of conductors had deteriorated during this period, while that of the drivers appeared to have improved slightly. The committee learned that the number of accidents has declined substantially in recent years.

Summing up its conclusions the committee says: "That some nervous strain is present in operating a passenger vehicle through Central London is obvious, but the extent of its importance as a contributory factor in the observed excess of gastric illness we have no means of gauging."

FURTHER REMARKABLE LOCOMOTIVE TRIALS IN FRANCE

Chapelon rebuilt 4-8-0 tested between Paris and Lyons on South-Eastern Region high-speed trains

AS a result of the excellent work performed on tests in the Northern, Eastern, and Western Regions of the French National Railways it was decided to try one of the former P.O.-Midi Chapelon rebuilt 4-8-0s* on the Paris—Lyons main line of the South-Eastern region. In view of the heavy gradients between Laroche and Dijon it has in the past been customary to change engines at both places, using Pacifics between Paris and Laroche, and again between Dijon and Lyons, and 4-8-2s intermediately; with the light-weight *rapides* it is now the usual practice for one locomotive to work throughout over the 317.5 miles from Paris to Lyons, and it was in such service that P.O.-Midi 4-8-0 No. 240.705 was first tested. A summary of the results on a series of nine test runs shows that on four southbound journeys an average of 26½ min. was gained on schedule time in the recovery of out-of-course slacks, this showing a net average running speed of 66.9 m.p.h. against a booked average of 61.1 m.p.h. Similarly, on five northbound runs the average net gain was 22 min., increasing the booked average speed of 60.8 m.p.h. to a net figure of 65.6 m.p.h. On seven out of the nine occasions the dynamometer car was added to the usual make-up of the trains in question, making a tare load behind the tender of 391 tons, as against 323 tons on the remaining two trips.

The most interesting work occurred on the northbound run from the start at Dijon up the heavy ascent to Blaisy—Bas summit. Of this 16½-mile stretch 9½ miles are inclined at 1 in 125, but the engine made light work of the task. On a typical run with the full load of 391 tons tare, speed rose to 68½ m.p.h. in 4 miles from the start, up gradients of 1 in 238, 164, 250, the drawbar horsepower reaching a peak of 2,060 during this acceleration. On the continuous 1 in 125 grade there was only the slightest falling-off in speed, to a sustained 67 m.p.h., with d.b.h.p. almost constant at 2,000. Above Lantenay the climbing is broken by two short level strips aggregating less than a mile in length, but this was sufficient to raise the speed to 70½ m.p.h., which rate was sustained on the concluding 1 in 250 gradient through Blaisy tunnel, 2½ miles long. On the final 1 in 125 before the tunnel was entered drawbar horsepower rose to 2,360. So Blaisy—Bas, 16.4 miles from Dijon, was passed in the astonishing time of 17 min. from the start. After that there was very easing steaming on the long and gradual descent towards Laroche; succeeding a slack to 12 m.p.h. approaching Les Laumes speed was sustained continuously at 70.77 m.p.h. for 60 miles with drawbar horsepower averaging about 600.

On some further trials, between Paris and Dijon, the same engine made some remarkable running on Train 513, with a tare load of 660 tons behind the tender. The start



Photo.]

[G. F. Fenino

P.O.-Midi rebuilt 4-8-0 No. 240.705 at Laroche, on northbound Marseilles-Paris Rapide. Note dynamometer car next to engine

from Laroche was delayed for ten minutes, yet such was the performance of the locomotive that, by the time Ancy-le-Franc, 39.5 miles, was passed, the train was running to schedule again. On gradients rising at an average of 1 in 700 speed rose to 75 m.p.h. in 9½ miles from the start, and drawbar horsepower reached a maximum of 2,130. After this fine acceleration speed was maintained steadily at 72 to 75 m.p.h., on much the same average rise, for 15 miles without a break, and Tonnerre, 25.6 miles from the start, was passed only 4 min. late. The rise then becomes more pronounced, and includes several short lengths at 1 in 200, yet speed was still held entirely between the limits of 68 and 75 m.p.h. On passing Aisy, 48.4 miles out, the train was 2½ min. ahead of time and a pronounced easing of the engine took place, yet even so Les Laumes, 63.3 miles, was passed in 58 min. 45 sec. A continuation of the previous effort would have shortened this time to 57 min. The schedule of the 323-ton Train No. 11, the seven-car Marseilles *Rapide*, on which the earlier trials had been conducted, is allowed 60 min. to this point, yet this timing was thus improved upon by 1½ min. with just over double the load, 660 tons. The remainder of the run to Dijon was made under easier steam to avoid getting too far ahead of schedule time. On the final 4 miles at 1 in 125 up to the summit speed fell from 54½ to 42 m.p.h.—an excellent performance with a 660-ton load, yet one far below the maximum capabilities of these extraordinary locomotives.

RECOVERY OF RAILWAY SCRAP METAL.—An all-line system for the collection and disposal of scrap metal has been put into operation by the L.M.S.R. to support the national campaign for increasing the production of scrap. Employees of all ranks are being urged to see that no waste is uncollected, and a special scrap-bin is now provided at every likely place. Already a pre-war comb-out of the system has yielded 100,000 tons, included in which were 600 tons representing the aggregation of small fragments of metal found lying about sidings and depots.

* Described in THE RAILWAY GAZETTE of July 14, 1933, pp. 48-50

RAILWAY NEWS SECTION

PERSONAL

R.C.H. CONFERENCES

Sir James Milne, K.C.V.O., General Manager, the Great Western Railway, has been unanimously re-elected Chairman of the General Managers' Conference for 1940.

Mr. H. E. O. Wheeler, O.B.E., Superintendent of Operation, Southern Railway, has been re-elected Chairman of the Operating Superintendents' Conference for 1940.



Mr. Charles J. Foster

Appointed District Goods & Passenger Manager, Inverness, L.M.S.R.

Mr. Charles J. Foster, whose appointment as District Goods & Passenger Manager, Inverness, we announced in our issue of November 10, began his railway career in 1902 when he joined the Caledonian Railway staff in the District Superintendent's office at Glasgow. In 1912 he was appointed Train Inspector, and in 1923, upon the amalgamation of the railways, he became Assistant Divisional Controller (Passenger Services) in the General Superintendent's office, Northern Division, L.M.S.R. Mr. Foster was made Outdoor Assistant to the Divisional Operating Manager, Northern Division, in October, 1932, and from 1932 to 1937 was a Member of the Rules & Regulations Special Committee at the Railway Clearing House. In 1937 he was appointed Divisional Controller (Passenger Services) Northern Division, a position he now relinquishes to take up that of District Goods & Passenger Manager at Inverness.

Friends of Paymaster-Lieutenant R. A. Beckett, of Beckett, Laycock & Watkinson Limited, will be interested to learn that he is now on Active Service in the R.N.V.R.

Mr. J. S. Wills has been appointed Chairman of Crosville Motor Services Limited and of East Yorkshire Motor Services Limited, and a Director of the British Electric Traction Co. Ltd. in place of the late Mr. W. S. Wreathall.

Mr. E. R. Soames has been appointed a Director of Crosville Motor Services Limited.

Mr. C. D. Stanley has been appointed a Director of Cumberland Motor Services Limited and East Yorkshire Motor Services Limited.

Mr. P. R. Blake, Managing Director of the South Wales Transport Co. Ltd., and Swansea Improvements & Tramways Company, has been appointed a Member of Council of the British Electrical Federation. Mr. Blake has also been elected a Director of Tilling & British Automobile Traction Limited, the United Automobile Services Limited, the North Western Road Car Co. Ltd., Omnibus Stations Limited, the West Yorkshire Road Car Co. Ltd., and the Gateshead & District Tramways Company.

Mr. Kenneth E. Garcke has been appointed a Director of the Lincolnshire Road Car Co. Ltd.

Lord Portal, a Director of the Great Western Railway, has, for business reasons, resigned as Regional Commissioner for Wales.

Mr. Joseph Walton, a Director of Thos. W. Ward Limited has been appointed an Assistant Managing Director of the company. For many years he has been associated with the Rail and Siding Construction Department, and has been responsible for the laying of important sidings in all parts of the country for Government factories and public works contractors. Mr. Walton is the Managing Director of the Darlington Railway Plant & Foundry Co. Ltd.

Mr. H. R. Gollan, Manager of the Australian National Travel Association, Bombay, has been appointed Australian Trade Commissioner in India. This is a newly created post, and the headquarters are in Calcutta.

Mr. M. Kanagasabay, A.M.Inst.T., Assistant Divisional Transportation Superintendent, Ceylon Government Railway, has been appointed Superintendent, Organisation and Staff. Mr. Kanagasabay, who was born in 1898, was educated at St. John's College, Jaffna, Ceylon, and obtained his railway training at the Ceylon Technical College, gaining a bonus for being the best all-round student. His railway career has been one of outstanding progress. Joining the General Manager's

Office in 1919, Mr. Kanagasabay worked in various capacities and earned the appreciation of more than one General Manager under whom he worked. In April, 1929, he was appointed Probationary Assistant Divisional Transportation Superintendent and underwent a course of training with the London & North Eastern Railway from 1931 to 1933. During this period he also attended the North Western Polytechnic (London) and the London School of Economics. On his return to Ceylon,



Mr. M. Kanagasabay

Appointed Superintendent, Organisation & Staff, Ceylon Government Railway

he was appointed Assistant Divisional Transportation Superintendent (Super-numerary) in November, 1933, Assistant Divisional Transportation Superintendent in January, 1934, and Acting Assistant General Manager (Staff and General) in June, 1936. Mr. Kanagasabay was appointed Acting Deputy General Manager (Administrative) in June, 1937. The title of Deputy General Manager (Administrative) has now become Superintendent, Organisation and Staff, and Mr. Kanagasabay has been appointed to this position. He is the first Ceylonese and is the youngest officer to be appointed to such a responsible position.

Mr. Hidejiro Nagata has been appointed Minister of Railways in the Japanese Cabinet.

L.M.S.R. STAFF APPOINTMENTS

Mr. F. W. Abraham, Assistant Divisional Superintendent of Operation, Manchester, to be Assistant Divisional Superintendent of Operation, Crewe.

Mr. P. McCallum, Assistant to Superintendent of Motive Power, Euston, to be Assistant Divisional Superintendent of Operation (Motive Power), Manchester.

Mr. A. H. Myers, Goods Agent, Manchester (London Road) to be Assistant District Goods Manager, Manchester.

Mr. L. S. Kettle, School of Transport, Derby, to be Goods Agent, Manchester (London Road).

Mr. E. A. Talbot, Head Office Inspector (Motive Power), Derby, to be Assistant District Locomotive Superintendent, Bristol.

We regret to record the death on December 9 of Mr. E. J. Wallman, Secretary of Thomas Cook & Son Ltd. Mr. Wallman, who was 66 years of age, had been connected with Thomas Cook & Son Ltd. for nearly 50 years. He lived in Italy from 1896 until 1931 and during this period was General Manager to the company. Mr. Wallman was a Captain in the Army during the war of 1914 to 1919, and was attached as a Railway Transport Officer in charge at Rome. On leaving Italy in 1931 to return to England, Mr. Wallman was appointed to be Secretary of Thomas Cook & Son Ltd.

BRITISH OVERSEAS AIRWAYS CORPORATION

The Secretary of State for Air has now established the British Overseas Airways Corporation, and has appointed the following to be members: Sir John Reith (Chairman), the Hon. Clive Pearson (Deputy-Chairman), and the Hon. Walter Leslie Runciman. At the first meeting of the corporation, held on December 1, Mr. Runciman was appointed Chief Executive Member with the title of Director-General.

Sir John Reith has been Chairman of Imperial Airways Limited since 1938 when he ended his association of 16 years with the B.B.C. as General Manager, Managing Director, and Director-General. He is 50 years of age.

The Hon. Clive Pearson was formerly Chairman of British Airways Limited. He is Chairman of S. Pearson & Son Ltd. and a Director of the Southern Railway. He is 52.

The Hon. Walter Leslie Runciman is the elder son of Viscount Runciman. He was formerly on the board of Imperial

Airways Limited. He is a Director of the Runciman Shipping Company, Lloyds Bank, and the London & North Eastern Railway. He is an honorary Air Commodore in a squadron of the Auxiliary Air Force and is 39 years old.

Monsieur I. Gigurcu has been appointed Minister of Communications in the new Roumanian Government formed on November 24. He succeeds Monsieur Ghelmegeanu, who, as we recorded last week, has become Minister of the Interior.

Signor Luigi Velani, General Manager of the Italian State Railways, who has seen 40 years of service with those railways or systems later forming part of them, has been nominated a Senator of the Kingdom of Italy. Under his direction great strides have been made in improving the Italian railway system and introducing the most modern methods in all departments; diesel and electric traction have made great progress and passenger services speeded up.



Left: A wayside station, Wuchang, on the Harbin—Heiho line. Right: Peian junction, where the lines to Heiho from Harbin and Tsitsihar join. In both stations note the low circular reinforced concrete defence posts at the corners of the buildings



Left: The imposing building at Tsitsihar, the upper stories of which are occupied by the divisional offices. Right: The new station at Dairen with entrances and exits at different levels but both approached by roads

TYPICAL MODERN STATIONS ON THE MANCHUKUO RAILWAYS. (See page 764)

TRANSPORT SERVICES AND THE WAR—16*

White lighting for Southern Railway suburban, Cheshire Lines, and London Transport trains—Northern Line tube re-opening—S.R. Christmas travel plans—German-Roumanian transit—Railways in Slovakia—Finland

The outstanding event of the week, so far as concerns improved passenger convenience, is the experimental restoration of white lights in the suburban electric stock of the Southern Railway. The company has equipped over 1,400 compartments, and trains so lighted were introduced on the Waterloo—Windsor service on Monday last, December 11. Similarly-lighted trains are to begin running between London

blinds once again, before the trains leave the station and the white lights are reinstated. As the leaflet points out, individual thoughtlessness may spoil the whole scheme. The greatest responsibility devolves on the last occupant to leave the compartment, who should see that all blinds are pulled down and the corridor door shut before leaving the train. If the members of the travelling public play their part, not

LNER

TO SENDERS AND CONSIGNEES OF GOODS

- 1 Pack your goods securely
- 2 Label your goods clearly, using black ink on white paper
- 3 Have goods ready for despatch early in the day
- 4 Do not delay railway vehicles effecting collection and delivery
- 5 Do not detain wagons a moment longer than is necessary

**YOUR CO-OPERATION
WILL FACILITATE
TRAFFIC OPERATION**

Left: A new L.N.E.R. poster inviting the co-operation of consignees of goods and giving simple and clear directions about packing and consignment

Right: The latest L.N.E.R. poster announcement about restaurant and buffet car facilities now available. The fixed prices of meals and standard service charges will be noted

LNER

RESTAURANT AND BUFFET CARS

NOW AT YOUR SERVICE

ON PRINCIPAL TRAINS
THROUGHOUT THE
SYSTEM

LUNCHEON - 2/6
TEA - 1/-
DINNER - 2/6

A SERVICE CHARGE of 3d or 2d, or fraction thereof, is added to each passenger's bill in time of payment. To bills of less than one shilling the service charge is 3d. No service charge will be added to cash sales of sweets, cigarettes, etc.

DETAILS OF TRAIN SERVICES AT
LNER STATIONS AND OFFICES

stations and Tattenham Corner and Caterham, and between Holborn and the Crystal Palace, a week later—that is, beginning on Monday next, December 18.

S.R. Suburban Stock Lighting

The new lighting is on trial, as the Government authorities will not agree to its permanency until they are convinced that all members of the public will play their part in assisting the railway. This means that the co-operation of the passengers is absolutely necessary, and accordingly some 20,000 explanatory leaflets are being distributed in the lighted compartments. The new system of lighting involves the use of hooded white lights and blue lights. The blue are left on continuously after dark. While the train is between stations, the white lights, sufficiently bright for passengers to read, are in use, but as the train runs into a station these lights are put out, leaving only the blue lights burning. This is to prevent the escape of the white light beams when compartment doors are open. An essential part of the scheme is that passengers must keep all the blinds down and the corridor doors (where they are used) closed while white lights are showing. Until the white lights have been extinguished, passengers must not raise the blinds to see at which station the train is stopping. It is for those who are left in the compartment, as well as those getting out, to make themselves responsible for pulling down the

only will they be able to read their papers going home in the evening, but they will also assist in ensuring that the trains will spend less time at the stations and that they themselves will reach their homes earlier. The leaflet concludes with an appeal saying that the Southern Railway is endeavouring to help the public, but in this case has been unable to find a satisfactory solution to this difficult problem without calling upon the assistance of passengers. It adds: "In this country the public have a reputation for playing the game, and the Southern feels that they will help in all ways possible to enable the Government to give permanent permission to continue this form of lighting, and so assure comfort with safety for passengers."

Lighting for Cheshire Lines Trains

The L.N.E.R. announces that 1,378 compartments of Cheshire Lines trains (jointly owned with the L.M.S.R.) are to be fitted with reading lighting in place of blue lamps. Trains to be equipped include the Liverpool and Manchester expresses and suburban trains in the Liverpool and Manchester areas, and it is expected that the work will be completed within seven weeks. The same device that is now being fitted in 10,000 compartments of L.N.E.R. London suburban trains is to be employed. It consists of a slotted metal box 12 in. long by 10 in. deep by 6 in. wide which is fitted over the centre roof lamp in every compartment.

Lighted L.M.S.R. Suburban Trains

The first white-lighted steam suburban trains to be introduced on the L.M.S.R. services using St. Pancras, Broad Street, and Fenchurch Street stations, were placed in service on Thursday, December 7. They are on the Southend line

* Previous articles in this series have been "Transport Services and the Crisis," Sept. 1, p. 334; and "Transport Services and the War," Sept. 8, p. 358; 15, p. 382; 22, p. 410; 29, p. 442; Oct. 6, p. 467; 13, p. 495; 20, p. 525; 27, p. 557; Nov. 3, p. 589; 10, p. 617; 17, p. 649; 24, p. 681; Dec. 1, p. 714; and 8, p. 746.



**7,644 LOCOMOTIVES
OF THE LMS ARE
IN ACTIVE SERVICE**



**THE LMS STAFF OF
230,000 ARE GETTING
ON WITH THE JOB**

CHRISTMAS TRAVEL BY RAIL

**BRITISH RAILWAYS ARE
RUNNING A
LIMITED NUMBER OF
ADDITIONAL TRAINS**

Tickets • book in advance
Luggage • travel light
Black out • use daylight services
 when you can
Lighting • improved lighting in
 many trains and all
 restaurant cars

**CHEAP MONTHLY RETURN
TICKETS TO ALL PARTS**

RAILWAY EXECUTIVE COMMITTEE

Two semi-photographic productions of the L.M.S.R., similar in general design to the Railway Executive Committee posters we produced on November 17

Advice for Christmas travel in wartime. A new poster of the R.E.C.

from St. Pancras and Fenchurch Street; on the St. Pancras to Bedford suburban section; and on the Broad Street to Tring service. The first lighted suburban trains from Manchester were introduced on November 23; and from Leeds on November 29.

District and Metropolitan Line Lighted Trains

All District Line and many Metropolitan Line trains, while travelling in tunnel in inner London, have had normal peacetime lighting since December 6. Permission has been

granted by the Ministry of Transport after a number of tests. The guard switches on the full lighting from a central switch when the train enters a section of tunnel. Numbers of Metropolitan Line trains which have not the necessary central control are being fitted with new circuits. The result of the new regulations is that all District Line trains are fully lighted while travelling between South Kensington and Bow Road. Metropolitan Line trains of the latest type and some Inner Circle trains are fully lighted in the tunnels between Aldgate and Liverpool Street, Kings Cross and Edgware Road, and

YOUR CHRISTMAS PARCELS MUST

**REACH YOUR FRIENDS
BEFORE CHRISTMAS DAY**

To ensure this—

- Send as early as possible
- Pack securely
- Address clearly
use black ink on white label
put a duplicate label inside
- Hand in during daylight

**HELP THE RAILWAYS
TO HELP YOU!**

RAILWAY EXECUTIVE COMMITTEE

CARRYING ON CARRYING YOUR GOODS

RAILWAY TRANSPORT
ESSENTIAL IN PEACE
VITAL IN WAR



HELP US TO HELP YOU

- LABEL GOODS CLEARLY USING BLACK INK ON WHITE PAPER
- HAVE GOODS READY FOR DISPATCH EARLY IN THE DAY
- DO NOT DELAY VEHICLES EFFECTING COLLECTION AND DELIVERY

ISSUED BY THE RAILWAY EXECUTIVE COMMITTEE

Two new posters issued by the Railway Executive Committee. That on the left is obviously a Christmas version of the packing and despatch instructions. The right hand poster has been produced for permanent display and is a quad-royal poster produced by Waterlow & Sons in one single printing

Edgware Road and High Street. In the open sections of line between the tunnels subdued lighting is being used until the new reading lights evolved by London Transport have been installed.

The first London Transport train equipped with the new wartime reading lights approved by the Ministry of Transport and the Ministry of Home Security left Liverpool Street for Aylesbury at 10.46 a.m. on Wednesday last, December 13. This is a compartment-coach train, and the normal lighting sockets at the sides of the roof have blue bulbs. A new central socket has been fitted to take the white light, which is shielded with a slotted hood generally similar to that adopted by the L.N.E.R. for suburban stock. This is the minimum lighting to be provided on London Transport trains at all times except during an air raid, when, at the direction of the Government, the present subdued blue lighting will be used. The complete London Transport programme is as follows: 3,764 saloon type cars (that is, all tube cars, all District Line cars, and most Metropolitan Line cars) will have full peacetime lighting in the tunnels, reading lights on open sections, and subdued lighting during air raids—the lights will be controlled by the guard from a central switch; 280 Metropolitan Line compartment coaches and 197 saloon cars will have reading lights all the time except during air raids; 90 Inner Circle cars will have full peacetime lighting in the tunnels and subdued lighting on the few open sections. The work is proceeding at full speed, and the long-distance compartment stock is being dealt with first. When all the material is available, 40 trains will be fitted every week. At the same time resistances are being fitted to the subdued lighting circuits to make them more reliable. When completed, the wartime lighting of London Transport trains will have necessitated the fitting of 30,000 additional lamps; 15,000 steel box shades, weighing in all 20 tons; and 160 miles of wire.

London Transport Station Re-opening

On Friday, December 15, two further tube stations are being re-opened, namely, Chancery Lane and Balham. The date for the re-opening of Trinity Road station is announced as December 22. Hyde Park Corner and Old Street stations were re-opened on Friday last, December 8. The installation of the floodgates at Strand, Charing Cross, and Waterloo Underground stations will be completed in time for Charing Cross station to be re-opened for normal traffic on Sunday, December 17. Since the war only the District Line station at Charing Cross has been opened and the completion of the gates will permit the resumption of through running on the Northern Line and the restoration of interchange facilities, normally used by more than 20,000,000 passengers a year, between the District Line and the Northern and Bakerloo Lines. Charing Cross is London Transport's busiest station, being used in normal times by more than 41,000,000 passengers a year.

Church Army Canteens

The official opening of the two station canteens provided for Servicemen at Birmingham by the Military Committee of the Church Army took place on Saturday last, December 9. That at Snow Hill station, G.W.R., is prominently situated on the down platform and it was formally declared open by Mr. C. Rayner-Smith, F.R.G.S., Assistant Divisional Superintendent, G.W.R. The canteen at New Street station, L.M.S.R., has been erected in a room on platform 5 and it was opened by Mr. G. R. Bradbury, District Passenger Manager, L.M.S.R. The canteens, which are staffed by voluntary workers, have a cheerful and homely appearance and are brightly finished in green paint. Among those who attended the openings were Major T. Jackson, who represented Church Army headquarters, and the Lord Mayor and Lady Mayoress of Birmingham.

S.R. Christmas Travel Plans

The Southern Railway will run many additional special trains from London stations to South Coast resorts and other parts of the system for Christmas travellers, from the Wednesday before Christmas to the Thursday after Christmas, but only during daylight. The usual holiday expresses will not be run after 5 p.m., owing to the difficulties imposed by the

blackout. In addition, the pressure of leave traffic of the fighting forces, ordinary return business traffic, and the heavy parcels traffic, added to the risk of adverse weather conditions, will make the task of the railway companies very difficult this year, particularly for the Southern Railway, over whose lines the whole of the Overseas and a large proportion of the Home Leave traffic will have to pass. In their own interests, members of the public are asked to co-operate by travelling on Wednesdays and Thursdays when possible, both on leaving and returning; and by taking as little luggage as possible, and seeing that the luggage is labelled with white labels, addressed in black ink. As no additional holiday expresses will leave London terminal stations after 5 p.m., there will be a risk of passengers being left behind after this hour. Blackout time on Christmas Eve will be about 4.25 p.m., and, although practically all Southern Railway main-line trains will be equipped with white lighting by Christmas, it will not be possible to relieve the darkness of station platforms to a corresponding extent, particularly in country districts.

Harwich—Felixstowe Motorboat Service

Owing to the difficulties attending the operation of the Harwich—Shotley—Felixstowe motorboat services during the hours of blackout, the last service from Harwich on weekdays and Sundays now leaves at 4 p.m., calling at Shotley at 4.15 and at Felixstowe Dock at 4.40.

Air Transport

The British Overseas Airways Act of August 4, 1939, provided for the establishment, as soon as may be after the passing of the Act, of a British Overseas Airways Corporation to acquire the undertakings of Imperial Airways Limited and British Airways Limited, and to make further and better provision for the operation of air transport services. The Corporation was to consist of a Chairman, Deputy-Chairman, and not fewer than 9, nor more than 15, members, with a proviso that the corporation might be deemed to have been established when the Chairman, Deputy-Chairman, and five other members had been appointed. In the circumstances of war, it was not found necessary to establish a corporation with so large a membership. Accordingly, in the interests of economy and efficiency, advantage was taken of the Chartered & Other Bodies (Temporary Provisions) Act, which received the Royal Assent on November 16, to provide, by Order-in-Council, that the corporation might be established with three members only. The Secretary of State for Air has now established the corporation and appointed the following to be members: Sir John Reith, the Hon. Clive Pearson, and the Hon. Walter Leslie Runciman. Sir John Reith has been appointed the Chairman and Mr. Pearson the Deputy-Chairman of the Corporation. It is the duty of the corporation to ratify the provisional contracts for the purchase of the undertakings of Imperial Airways Limited and British Airways Limited, and generally to complete the necessary formalities for taking over these undertakings on the "appointed day."

The new British Overseas Airways Corporation may shortly begin the air service between Lisbon and this country which has been promised for some weeks. As aeroplanes may not fly over Spain, a land plane service to Lisbon would have to take a circuitous route, and it is possible that a flying boat service will make the journey *via* Biscarosse, near Bordeaux, in two days. Within three months Pan-American Airways Clippers will leave New York for Lisbon every day of the week except Sunday instead of twice weekly as now. Six Clippers are being built for this additional service, each designed to carry a crew of 11 with sleeping accommodation for 32 passengers, and a lounge compartment which will seat 14.

An air convention was signed at Sofia on December 11 by Russia and Bulgaria for establishing air connection between Moscow and Sofia *via* Odessa and Burgas. Soviet machines will be used throughout and Soviet engineers are undertaking the construction of a base at Burgas.

On Monday last, December 11, a daily air service was begun between Milan and Tripoli.

It is reported that direct air communication between Germany and Chungking, the wartime capital of China, is to be begun shortly. The service to Chungking is to be maintained by the German-Chinese Eurasia Company, work-

ing in co-operation with Russo-Chinese companies. Arrangements have been concluded for the conveyance of air mail from Rangoon to thirteen provinces in China, states a Reuters message dated December 4. Mail will be carried by the new Chungking-Rangoon air service, operated by the Chinese National Aviation Corporation, which contemplates increasing the service to twice a week. Japan has concluded an agreement with Thailand (Siam) under which the Japanese Airways Company will open an air service to Bangkok, beginning next February, according to a Tokyo message of November 28. Bangkok is an important junction on the Imperial Airways line to Australia, and on other European systems. The new service, when it is inaugurated, will give Japan effective air communication with Europe, and independent of existing and projected air lines *via* Russia and Germany.

Eastern European Transport

Throughout practically the whole of Eastern Europe it appears that normal transport of goods has been replaced by artificial arrangements brought into being as the result of German-Polish, Russo-Polish, and Russo-Finnish hostilities, or in consequence of the British naval activities in restricting almost to the point of extinction Germany's import and export trade by sea.

German-Roumanian Transit

Conflicting reports continue to arrive in this country regarding the position of transit traffic through Poland. As we recorded in our November 24 issue (at page 684), a mixed Roumanian-German-Russian railway commission was arranged to be held at Cernăuți on November 15 to consider re-opening to railway traffic the frontier at Grigorivoda (between Sniatyn, in Soviet-occupied Poland, and Orașeni, in Roumania) and also providing for through Roumanian-German traffic crossing the frontier there, and proceeding *via* Lemberg, Krakow, and Beuthen. Reports from Bucharest afterwards stated that the first through *passenger* train left Bucharest on November 16, and messages from Cernăuți recorded the crossing of the frontier the next day. Then came a dispatch from Bucharest, dated November 22, which said that the Russian delegation had failed to attend the meeting a week earlier. Whatever happened cannot be ascertained precisely, but it is clear that free transit was not resumed, and on December 1 a Budapest message said that Germany had asked Russia to enter into negotiations with Roumania to reopen the route, and the discussions had begun that day at Orașeni. Two statements, both credited to the British United Press correspondent at Bucharest, were published in London on December 2. One stated that agreement was reached, and the other that conversations were still in progress. On that Saturday (December 2) Rome reported that partial through goods traffic was being re-established at midnight that night "on the international railway line which connects Bucharest to Germany *via* Cernăuți and Krakow," and quoted a Bucharest telegram to the Stefani Agency as its authority. Reuters stated a day later that agreement was not reached until Sunday, and gave some details of the terms, namely, that the agreement provided that only merchandise should be transported by this route to the exclusion both of passengers and mail; that five trains, each of 60 trucks (representing about one quarter of the pre-war traffic) would be run daily, and would travel only by night; that rolling stock was to be provided by Germany; and that negotiations for drawing up a timetable were continuing. At the same time it was rumoured that very heavy transit charges (payable in gold or stable currencies) would be asked by Russia for goods imported by the Reich over this route, and, according to the Brussels radio, Russia would allow no trains to pass till the transit charges had been paid in advance. These hints of failure to reach real accord were further strengthened by a Reuters message from Bucharest, dated December 7, which said that German hopes of obtaining large supplies of Roumanian produce by this route had been dashed, as it was learned that the Soviet railway authorities at Lemberg in Poland had sent a telegram to the Roumanian railway authorities at Cernăuți instructing them that the traffic was to be limited to wood and soya beans; livestock and other foodstuffs were banned. The message continued that the Soviet authorities had also

demand a fee of 10,000 lei a truck for transit across the Russian stretch of the line from Sniatyn to Przemyśl, which must be paid in Swiss gold francs; these the Roumanian exporters were unable to obtain. Various credit difficulties were also cited, but these have only indirect transport interest. It is reported as the sole result of the Orșeni agreement so far that the Germans have been able to get out of Roumania, 150 trucks of timber which has been lying at the Orașeni frontier station since the beginning of the Polish war. In the early days of December it was reported that Russia had completed laying additional rails between Lemberg and Sniatyn, so that a mixed-gauge track (4 ft. 8½ in. and 5 ft.) is available from Roumania to Lemberg, and the standard gauge only thence to Germany.

These transit difficulties may be of less importance than was at one time thought, in view of the apparent lack of outstanding success on the part of the German economic mission to Roumania headed by Dr. Clodius. Reuters reported from Bucharest, on November 21, that a German demand for a 50 per cent. devaluation in the lei, from 41½ to the mark to 60, or, alternatively, for a reduction in Roumanian prices, especially for oil, had been rejected by the Roumanians. It was also stated that Dr. Clodius had also asked M. Ghelegeanu, then Roumanian Minister of Communications, for a reduction of Roumanian railway tariffs. At the same time Dr. Clodius offered an order for the speedy delivery of 500 railway trucks, promising in return to ensure execution before the end of the year of Roumanian orders to Germany for 40 express locomotives, 60 locomotives of smaller type, and 12 electric locomotives. Incidentally, the Roumanian railway authorities were stated to be worried because nearly 2,800 tank wagons had not been returned from the German railways despite repeated demands, according to a Bucharest dispatch received in Paris on December 4. On the other hand, a Reuters Bucharest dispatch of December 7 said that large quantities of railway trucks had been sent from Germany to Roumania with a view to tapping the produce of the Bukovina and Bessarabia regions which Germany was hoping to transport *via* the Cernăuți-Lemberg route.

Disagreement over the German trade negotiations resulted in the resignation of the Roumanian Cabinet on November 23, but the new Cabinet, formed the next day, with Monsieur I. Gigurcu as Minister of Communications, also found itself unable to agree to Germany's proposed trade terms, which are stated to have included payment for certain commodities "after Germany's victory." Before the war Germany imported from Roumania an average of 110,000 tons of oil a month, most of which went from Roumania *via* the Black and Mediterranean seas to Hamburg. With the outbreak of the war Germany had to shift this traffic to the Danube, but was able to import only 52,000 tons in September and 82,000 in October. An additional 8,000 tons a month travelled to Germany by rail. Roumanian figures of trade with Germany for the first seven months of this year are now available. Germany imported from Roumania in that time £8,080,000 worth of goods, of which oil accounted for £3,200,000, or 39 per cent. of Germany's total imports from Roumania. The total Roumanian oil exports in the first seven months of the year amounted to £8,640,000. Germany, therefore, had taken 37 per cent. It was stated by the British United Press on Tuesday last (December 12) that a shipment of Roumanian oil for Germany had been held up near Roumanian-Polish frontier because Germany and Russia had not agreed on means of payment for transport across Russian-occupied Poland. It is alleged that Russia wants payment in gold; whereas Germany offers marks or goods.

Hungary and Jugoslavia

Hungary naturally tries to sell as much of her produce as political conditions permit to countries like the United Kingdom having a currency internationally valid. A Budapest press report of December 3 says that Germany has endeavoured to hamper such trade by holding up Hungarian transit traffic and failing to return Hungarian goods trucks. Dozens of Hungarian locomotives and brake vans manned by Hungarian personnel are stated to run periodically to Hamburg and the Ruhr to repatriate the large numbers of

Hungarian cattle and goods wagons which the Reichsbahn declares itself unable to send back in the normal way. These returning goods expresses are jocularly alluded to in Germany as "Horthy trains."

A German financial delegation recently visited Belgrade with the object of opening a discussion with the Yugoslav authorities over the possibility of refunding to Germany part of two pre-1914 loans to Serbia and several to Bosnia-Herzegovina, thus releasing credits to be used in payment for Yugoslav produce. Yugoslavia has never admitted any liability to Germany, her former enemy, on Serbian loans, although interest is being paid to British and French bondholders. Germany's share in the loan was 76,000,000 French gold francs—some £3,000,000. The German argument is that she is a friend and no longer a "former enemy." The Germans are also stated to be anxious to discuss loans to Bosnia-Herzegovina, but it was felt that no Yugoslav Government was likely to agree that Yugoslavia should pay for railways, roads, and barracks which were built strategically against Serbia from 30 to 40 years ago, for that is how most of the loans were used. It is considered unlikely that more than a small proportion of the 1914 Bosnian railway loan was spent there, since it was negotiated on the eve of war. More recently it has been reported that, under pressure, Yugoslavia has agreed to repay certain of these loans (cancelled under the Peace settlement), some of which were made as long ago as 1895, and that Germany will be paid in goods.

Railways in Slovakia

The Slovak Railways announce a large improvement programme, including doubling the main eastward route from Bratislava (Pressburg), with a connecting line between Presov and Hommenau (52 km.), involving 104 bridges and 17 viaducts. The Leopoldstadt—Rybnik line is also to be doubled. The permanent way is to be strengthened and the capacity of the lines considerably increased. Under an agreement signed in Berlin on November 21, Teschen, the coal-producing and industrial area in Silesia, which Poland took from Czecho-Slovakia last year after the Munich agreement, is being restored to Slovakia. On July 20, 1920, it was adjudged to Poland by the Council of Ministers, but the Czechs never handed it over.

The possibility of establishing direct railway communication between Soviet Russia and Slovakia is believed to have formed the subject of recent conversations in Bratislava between the German Minister there and Dr. Tuka, the Slovak Deputy Prime Minister. The establishment of direct railway communication between Russia and Bratislava via Zilina would entail building a line on the Russian gauge. It is suggested that a free port would be provided on the Danube at Bratislava for the Russians; thence there is river communication by the Danube with Germany as far as Regensburg (Ratisbon) in Bavaria. Transport by such a route would save the use of standard-gauge railway wagons and would provide quicker transit from Russia than via the Black Sea.

Transport in Germany

A Reuters message says that foreign tourists are being invited to visit the Reich, and assured that sleeping and dining cars are attached to long-distance trains, and that railway timekeeping is good. It is stated that a supply of food has been set aside for tourists and that visitors receive ration cards at the frontier. Germany is advertising that famous spas are ready to receive guests, and winter sports centres are hoping for a busy season. A neutral traveller, who returned recently from a trip through Germany, published his impressions in *The Daily Mail*, and the following notes on transport conditions are extracted therefrom: "As a neutral I had no difficulty in obtaining a visa to enter Germany. Neutral newspapers I had with me were confiscated at a railway station near the frontier. I was handed my traveller's ration cards containing vouchers for about 2 lb of bread, 2 lb. of meat, and 5 oz. of fats and butter. At Freiburg, the first station immediately behind the Siegfried Line, the train was invaded by hundreds of troops in full war kit. Five East Prussians entered my compartment on

their way home for a fortnight's leave, but their one idea seemed to be to get some sleep. I was told that more trains were following and noticed that troop trains going in the opposite direction were quite as numerous. It seemed to me that, while foreign reports stressed the constant flow of fresh troops westwards, they might have overlooked the fact that these were, in the main, reliefs, and that the eastbound trains were by no means empty." After more than two months of war the French Tourist and Railways Office, in the heart of Vienna, was still open, according to information which reached Paris. The story is that, when the French staff left, an Austrian clerk in the office, evidently acting on instructions from the Nazi authorities, kept the office open. The idea is believed to be that the thousands of Viennese who daily pass the office will be given the impression that France does not really intend to fight, and that links still exist between the two countries.

From October 2 ration cards have been necessary in German restaurant cars. The principal forms of these cards, for bread, meat, and staple foods have small enough divisions to serve conveniently for meals on journeys. Special meal tickets can be obtained before the journey in exchange for the portions of the ration cards proper. Passengers are recommended to see that their allowance of fats is duly covered in this way.

Large posters are now reported to be appearing on German railway stations and in prominent positions in the towns and villages giving an invitation to "Visit the ruins of Warsaw." The Reichsbahn is curtailing its usual Christmas timetables, and members of the public are urged to postpone all but urgent journeys until the New Year, the German radio has announced. More than 100 women are understood to be acting as guards on long-distance passenger trains in Germany. They are said to be quartered in the Münster district, and to be provided with an official blue forage cap but no other uniform; many are wives and daughters of railwaymen serving with the German forces. To conserve the use of railway wagons, water transport is being employed wherever possible. Goods for transport between Ludwigshafen and Emmerich, for instance, must be forwarded by river and not by railway except in cases of urgency. To speed up the circulation of trucks, Sundays and holidays are now reckoned as working days in computing time and demurrage.

A special conference to arrange speedier communications between Russia and Germany met at Kaunas, the capital of Lithuania, on November 21. Representatives of the German, Russian, and Lithuanian State railways are said to have taken part, and Latvia and Estonia to have sent delegates. Latvian railways are stated to be using Estonian oil shale in place of coal.

Finland

In expectation of the attack on Finland by Soviet Russia, which materialised at 9 a.m. on November 30, the Finnish Railways had for some days been heavily taxed to meet the requirements of civilian evacuation from Helsinki and of mobilisation. The Russian air raid on the first morning seems to have been directed against the main railway station, but without success. When warfare began, further evacuation from Helsinki was undertaken, and all trains leaving the capital were crowded. That same day Soviet troops occupied the railway station at Rautu, and the junction at Terijoki, on the Finnish side of Rajajoki; both are near the Soviet-Finnish frontier. By December 6, only some 50,000 of Helsinki's population of 300,000 remained, the others having left by railway, motorbus, and lorry. Railway waiting rooms at Helsinki are stated to have been converted into public kitchens for free distribution of food to villagers seeking refuge there. On December 11 it was reported that normal life on a restricted scale had been resumed; trains were running to restricted timetables; and trams and buses were at work. Finnish refugees have crossed the Norwegian and Swedish frontiers, and a Swedish official has been sent to the Finno-Swedish frontier to issue emergency visas. The Swedish Government has granted free transport on the State Railways for clothes and bedding sent north to refugees by such organisations as the Red Cross and the Salvation Army.

MINISTRY OF TRANSPORT ACCIDENT REPORT

Cross Drove Crossing, Hilgay, L.N.E.R.; June 1, 1939

Lieut.-Colonel A. H. L. Mount, Chief Inspecting Officer of Railways, inquired into the accident which occurred at about 12.10 p.m. on June 1, 1939, at the Cross Drove occupation crossing, just north of Hilgay station, L.N.E.R., when the 11.2 a.m. up express, Hunstanton to Ely, approaching the station at 60 to 65 m.p.h., collided with a lorry at the crossing and was derailed, later striking goods vehicles in an adjacent siding. The train, formed of five bogie coaches, was drawn by 4-4-0 engine No. 8783. Its position after the accident is shown on the accompanying diagram. Three passengers were killed and one fatally injured; 12, including the driver, fireman and guard, were injured, five seriously. The lorry driver had minor injuries. A good deal of damage was done to the rolling stock. The weather was fine and visibility good. Colonel Mount attributes the accident to gross carelessness on the part of the lorry driver.

The line was constructed under an Act of 1845; investigation showed that there was no doubt that the Cross Drove crossing was of the occupation type; the drove existed before the line was made. The Norfolk County Council has many small holdings nearby, but the crossing road is repairable as a public highway by the council and is used by a great many people having no connection with the holdings. There appears to be no agreement between the railway company and the council or other landowners regarding user of the crossing, which has gates 109 ft. apart, well back from the railway, giving vehicles ample distance to stand inside them clear of the tracks. The gates are single hung, 12 ft. wide, opening outwards, and fastened when closed by spring catches. They are not self closing and have no hooks to hold them open, but each had a loop of string on it for attaching to a nail for this purpose. There are notices warning users to beware of trains and indicating the penalty for failing to shut the gates. Orchard trees on the west of the line restrict a northerly view of up trains as users approach, but at 7 yd. outside the west gate, approximately where the lorry driver stopped when his mate got down to open it, the view of the up line is 111 yd. When opening the gate it is 271 yd., and just inside it the view is 377 yd. Only 4 yd. inside, however, 15 yd. from the up track, the view extends the full distance towards Downham, about 1½ miles. Except for the above restriction, the visibility conditions are excellent for road users. Hilgay station signal box, 400 yd. south of the crossing, controls a public crossing but is switched out for a great part of the day. The down starting signal is then normally off, the other signals being worked in conjunction

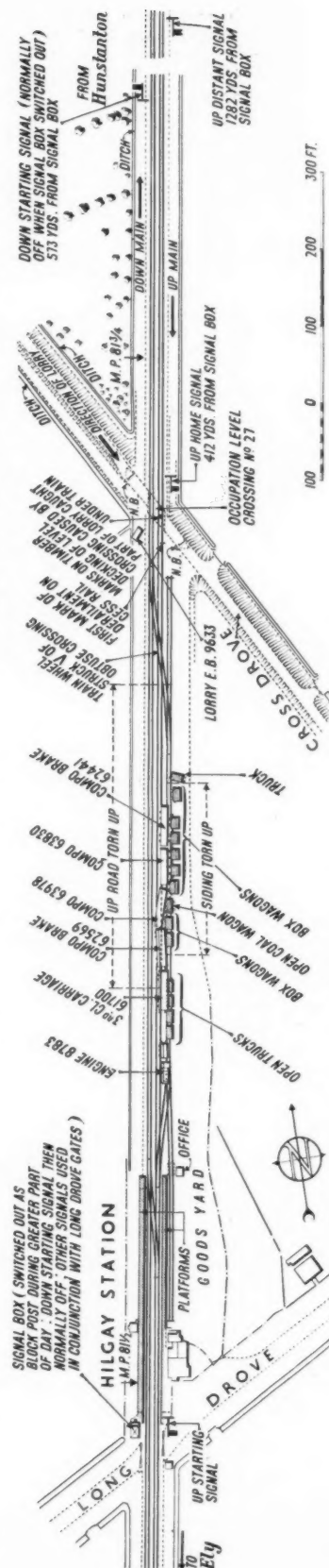
with the public crossing gates. Evidence showed that the occupation crossing was used very frequently, especially during the months from September to January. Permanent way employees said they found the gates left open at least once a fortnight.

The express left Downham at 11.59 a.m. Clerk D. J. Biggs, returning from the signal box to the station, noticed the lorry approaching the crossing and saw it "either stop for a second or slow down on approaching the gate." The lorry was moving when the collision took place; he heard the engine whistle first. There were three men on the locomotive. Driver D. S. L. Barber, one of the three regular Royal train drivers, a man with an excellent record, opened the whistle when 200 to 300 yd. from the crossing and, from his right-hand position, saw the lorry well before it reached the line and as quickly as it was possible to do it. He closed the regulator but was uncertain whether he had applied the brake before the collision. Fireman R. A. Miller had no warning of the danger. Driver F. W. Bendall, standing behind Barber and learning the road, saw the lorry after the latter. Guard H. R. Jolly had a fortunate escape, as it was in his vehicle that three passengers were killed.

R. Height was driving the lorry, a 2-ton Ford truck, accompanied by a youth, A. Pearce. He said he knew Cross Drove crossing and had been over it a dozen times in three years. Arriving at the crossing, Height found both gates were shut. He knew the position and indications of the up home signal but "did not pay particular attention to it"; he realised that he was solely responsible for opening the gates. He said that he drew up and Pearce went to open them. When the west gate was opened he proceeded forward at 4 to 5 m.p.h. and looked towards the station; that was all he could remember. He said that he did not expect there could be a train coming, seeing that Pearce had opened the gate. It was impossible to open the far one first at this crossing, as the gates had to be held open. He was not trying to beat the train across. Had he been alone he would have walked on the line, but he assumed that all was right as Pearce had opened the gate. He tried to maintain that he could not have seen far from his cab, in any case, owing to the angle of the crossing. Pearce's evidence was not very satisfactory; he took the position that he was "employed to unload and load, not to look after the lorry. That is the lorry driver's job."

Chief Inspecting Officer's Conclusions

The accident was brought about by the unfortunate lack of proper understanding between Height, who pro-



Scene of the Hilgay occupation level crossing collision, June 1, 1939

ceeded on to the line after ignoring the most elementary precautions, and Pearce. For the latter, with his lack of experience, there is some excuse, but there is none for Height. It appears that Pearce's presence induced a false sense of security in Height's mind, the inference being, however, that he must have been sufficiently stupid and careless to take the risk of traversing the crossing without making sure of the conditions, by either seeing for himself or ascertaining that Pearce had done so. His suggestions that the angle

of the crossing and the trees prevented him from realising the proximity of the train were merely excuses for slovenly driving. Anyone exercising ordinary care should have no difficulty at this crossing. It seems doubtful whether Height could reasonably have been expected to pay attention to the up home signal, owing to its relation to the angle of the road and, if signals are really to be relied on, the normally clear aspect of the down starting signal would be misleading. The Long Drove public crossing gates were to be seen

closed to the road and the up starting signal clear, both of which might have been expected to warn him, had he looked. With the wide interval between the gates and the line there was ample space for Height to have stopped clear, or at any rate to have bent forward and turned his head, to obtain a $1\frac{1}{4}$ mile view of the line towards Downham. The accident was solely attributable to his failure to exercise reasonable precautions. No responsibility whatever can be attributed to Driver Barber.

STAFF AND LABOUR MATTERS

Railway Wages

The main-line railway companies on Friday, December 8, advised the three railway trade unions—the National Union of Railwaymen, the Associated Society of Locomotive Engineers and Firemen, and the Railway Clerks' Association—of their acceptance of the unanimous findings and the majority findings of the Railway Staff National Tribunal as contained in Decision No. 6.

The unanimous findings of the Tribunal recommended that the minimum rate of pay for drivers and motormen should be increased from 12s. a day to 13s. a day; increases in the minimum payments for Sunday duty for all classes of staff; and payment at the rate of time-and-a-quarter for all weekday time worked by clerical staff between the hours of 10 p.m. and 4 a.m. The majority findings recommended the following minimum rates of pay: *Adult male conciliation staff*. 50s. a week in London; 48s. a week in industrial areas; 47s. a week in rural areas. *Adult female conciliation staff*. 38s. a week in London; 36s. 6d. in industrial areas; 35s. in rural areas. The award of the tribunal is to operate as from the first full pay period after October 28, 1939.

The raising of the minimum rates of pay, as the tribunal realised, will involve adjustments in the rates of pay at or above the new minima, and these consequential increases will be settled between the railway companies and the trade unions. As we go to press we learn that a meeting for this purpose was held on Thursday, December 14. It is estimated that the additional cost involved in the recommendations of the tribunal, together with the consequential increases, will be about £1,000,000 a year. The Railway Clerks' Association has also accepted the tribunal's decision.

With the decision of the Railway Staff National Tribunal now disposed of, the railway companies must turn their attention to the other claims which have been presented to them by the trade unions. These include claims for 10s. a week increase in wages, with a minimum rate of 50s. a week for railway shopmen; an increase of 10 per cent. in the rates of pay of electrical workers; and, as we announced last week, a claim by the National Union of Railwaymen for an all-round increase of 10s. a week in the rates of pay of all

staff employed on the railways under the Railway Executive Committee.

Writing in the *Railway Review* last week, Mr. Marchbank, General Secretary of the National Union of Railwaymen, states in connection with the claim of his union that it "starts from the fact of increased cost of living. It takes into account that other unions have negotiated substantial wage increases for their members. It is calculated that since the war began, 13 weeks ago, some 4,000,000 workers have gained advances equal to £30,000,000. Railwaymen have not yet participated in that forward movement. Acceptance of the principle of a minimum wage for the railway service is not the same thing as increasing wages to meet the rising cost of living. Since the war began, food prices have risen probably by something like 20 per cent., at this time. Food prices stood 14 per cent. higher, on the Ministry of Labour figures, early in November, and they have been rising since. Increased cost of food and of living costs generally is the capital fact with which the trade unions have to reckon. Cost of living is measured today by a yardstick which was cut many, many years ago. The official index is hopelessly out of date. That is why it is no answer to the railwaymen to say that their wages, when a certain level is reached, are regulated to some extent by a sliding scale arrangement. In the first place, the sliding scale does not cover all grades. Secondly, it is based upon an inadequate and quite unsatisfactory calculation of living costs—as the Ministry of Labour itself recognised when it undertook nearly three years ago to collect data for the construction of a new index."

Irish Railway Wages Board

As the result of a meeting in Dublin on November 29, 1939, the Irish Railway Wages Board has given two decisions in regard to alterations in the percentage deductions from earnings of railway staff. The decisions affect the Belfast & County Down Railway and the Great Southern Railways. The board has decided that the 10 per cent. deduction from salaries and wages of staff on the Belfast & County Down Railway shall be replaced by a deduction of $7\frac{1}{2}$ per cent. as from the first pay period of December, 1939, until a further order of the board, liberty being given to

each party to apply to the board for a variation of the order at any date after April 1, 1940. With regard to the Great Southern Railways, the board has decided that the $1\frac{1}{4}$ per cent. deduction from earnings shall be restored as from the first pay day in December, 1939.

Road Haulage Wages

The Road Haulage Central Wages Board met in London on December 5 and 6 to consider objections which had been lodged to its proposals (a summary of which was published in our issue of October 20) for the remuneration of road haulage workers, and the reports of the area boards thereon. The board decided, with certain minor modifications, to submit their proposals to the Minister of Labour and National Service, with a view to his making an order which will give statutory effect to those proposals. In the details of the proposals as set out at page 520 of our October 20 issue, the rates of pay of drivers in the London area were unfortunately transposed with those for places outside London.

National Joint Advisory Council

The National Joint Advisory Council held its second meeting on December 6, and Sir John Simon, Chancellor of the Exchequer, attended the meeting. It is understood that the trade union representatives had asked for further information in explanation of statements made by Sir John Simon recently in the House of Commons. One of the statements made by Sir John Simon was that "before we have finished with this tremendous war it may mean the most fearful sacrifices, some of which we have perhaps hardly begun to dream of as possible," and this was followed by a statement that the only way in which a democracy could meet the terrible burdens of a great war was by willingness to sacrifice on the part of the whole nation. It was impossible for the country to go on living with all the same standards as easily preserved in wartime as in peacetime, and he added that "one of the chief contributions that we can all make here in our democracy towards winning the war is, within the limits that are possible, to do without rises in wages and not to assume that, if there should be, as world conditions may bring about, some rise in costs, therefore automatically our remunerations must all go up on a sliding scale."

RAILWAY AND OTHER MEETINGS

Madras & Southern Mahratta Railway Co. Ltd.

The annual general meeting of the Madras & Southern Mahratta Railway Co. Ltd. was held at "Guildcroft," Epsom Road, Guildford, Surrey, on December 13, Brig.-General Sir Charles L. Magniac, C.M.G., C.B.E., Chairman of the company, presiding.

The Secretary (Mr. Vaughan Craster, O.B.E.) read the notice convening the meeting and the auditors' report.

The Chairman, in moving the adoption of the report and accounts, said that the capital expenditure during the year under review was Rs. 9.65 lakhs, mainly on structural works and rolling stock. There was no new construction undertaken during the year. Gross earnings showed some improvement having totalled for the entire system Rs. 754.45 lakhs, or Rs. 5.12 lakhs more than in 1937-38. Receipts under coaching were Rs. 16.61 lakhs less; there was also a reduction of Rs. 3.36 lakhs in sundries, but these losses were counter-balanced by goods earnings which yielded Rs. 25.09 lakhs more than in the previous year. The reduced passenger receipts were mainly attributable to unfavourable conditions generally prevailing in the districts served by the company; trade was not so good, and the ryot had not so much money to spend on travelling. On the other hand, goods earnings benefited by the fortuitous circumstance that there were practically two crops of oilseeds to be moved during the year owing to the fact that a considerable part of the previous year's ground nut crop was not dealt with until much later than usual.

The working expenses at Rs. 435.60 lakhs showed a net reduction of Rs. 1.83 lakhs compared with 1937-38,

mainly under the heading of operating expenses. Replacements and renewals, such as re-railing, strengthening girders, &c., accounted for an increase of some Rs. 3.94 lakhs, but this was offset by a saving of about Rs. 6.5 lakhs in general administration and operating expenses. Close attention continued to be paid to economy under all heads of expenditure.

Net earnings for the year 1938-39 amounted to Rs. 318.85 lakhs compared with Rs. 311.9 lakhs for the previous year—an increase of Rs. 6.95 lakhs. This must be considered a very satisfactory figure seeing that the company did not now have the benefit of any return from the metre gauge lines of the Mysore State, which were transferred to that government on January 1, 1938. The total surplus profits received amounted to £59,692, against £110,017 for the previous year, or a reduction of £50,325. This was the first full working year under the new contract, and the lower return to the stockholders was, of course, inevitable. It would be noted, however, that the board's anticipation of a yield of about 1 per cent. under the new contract terms had been more than realised.

The total sum available for distribution in the year was £101,616, and out of this an interim dividend of 2½ per cent. was paid on July 1 last. The directors now recommended for the stockholders' approval the payment of a final dividend of 3 per cent. in January next—i.e., 1½ per cent. guaranteed interest, ½ per cent. from stockholders' revenue, and 1 per cent. from the reserve fund. This would make the total return 5½ per cent. for the year. The payment of the total

dividend just mentioned would leave a balance of about £50,000 in the stockholders' revenue account to be carried forward compared with £28,000 in the previous year.

The audited results of working for the first half of the financial year ended September 30, 1939, compared with the similar period of last year, showed an increase in gross earnings amounting to Rs. 18.77 lakhs. Working expenses were up by Rs. 3.36 lakhs, and net earnings by Rs. 15.41 lakhs. The traffic returns up to the end of November showed an improvement of about Rs. 10.00 lakhs over last year. It was difficult to forecast the effect of the war on the remaining months of the year. Their Agent and General Manager reported some dislocation in trade, and this, coupled with a partial failure of last year's monsoon and a late and somewhat irregular north-east monsoon this year, had affected adversely the earnings of the ryots. Some decrease in travelling must therefore be anticipated. Goods earnings during the winter season might not be so high as last year, but it was reported that the ground nut and cotton traffic should not be less.

Stockholders would note that the sum of £50,000 stood to credit in the dividend equalisation reserve fund. This was the figure which he mentioned last December it had been decided to transfer from the investment reserve fund, which would now amount to £62,756; the provision under this head was considered sufficient to meet any loss on realisation of investments in the future.

The report and accounts were adopted.

Forthcoming Events

Dec. 16 (Sat.).—Permanent Way Institution (Manchester-Liverpool), at Board Room, L.M.S.R. Offices, Hunt's Bank, Manchester, 3 p.m. Election of Officers for 1940.

Advertising in Wartime

Speaking at a luncheon of the Incorporated Society of British Advertisers on December 7, Mr. Sidney Rogerson referred to the advantages of advertising in the trade press in wartime. It is true that in war the problem of many industries is not that of selling their products, but how to supply them to regular customers. A new customer, Government, demands the bulk of the output, and what is left over must be rationed fairly among the independent customers. Simultaneously travellers are called up or called home, and restrictions and shortage of paper cut down other channels of explanation, that is, leaflets, booklets, and so forth. This is one of the main justifications for advertising in the trade press in wartime. It is a link between advertiser and customer, and for this reason the trade press grows

rather than shrinks in importance. Imperial Chemical Industries Limited, said Mr. Rogerson, produces about 700 lectures, booklets, leaflets, and treatises a year. With the transfer of technical service men to more productive work, and the shortage of paper, this approach is ruled out in wartime; but it is still open through the trade press.

This is the positive side of the picture. There is another. The trade press is an institution performing a highly valuable service, not only by supplying the platform for the discussion of trade topics but by gathering and relaying trade information and keeping manufacturers abreast of new developments at home and overseas. Obviously, said Mr. Rogerson, this information is of more consequence to the small firm than to the big combine, which can afford to maintain its own intelligence

service. But every firm takes so much out of industry in orders and must put something back. Support of the trade journal is a convenient and desirable way of doing so. By spending money on the trade press the big firm helps to continue the service the paper gives to the smaller unit and also sets the example.

Not all trade papers are on the same level of competence, and wartime may afford the opportunity for some weeding out. "Just as the farmer must let some of his crops slide and concentrate on those essential in the emergency, so we advertisers can continue if not increase our support of the worth-while papers, and withdraw it from those that really are not serving any useful purpose." In conclusion, Mr. Rogerson said he could justify his firm's support of our excellent trade press: "We have as good a trade press as any country in the world; probably at the moment the best in the world."

War Organisation of Ministry of Transport

The organisation of the Ministry of Transport and some of its administrative problems under war conditions was the subject of an address by Captain Euan Wallace, Minister of Transport, after the annual general meeting of the Institute of Transport on December 11. In the Ministry's war organisation, he said, each particular aspect of inland transport—railways, ports, canals, road vehicles, road construction—was the responsibility of a separate division. Every morning the heads of these divisions met for a short time as a defence council; questions of general interest were discussed and decided so as to ensure that the plans, necessarily different for the different modes of transport, fitted in with one another, and that the best use was being made of the available transport facilities.

The method by which each division maintained contact with the operators of the particular form of transport for which it was responsible necessarily varied. To keep in touch with some 200,000 operators of road goods vehicles, for instance, was an entirely different matter from liaison with only five undertakings which broadly speaking represented our railway system. Docks, provincial bus operators, and canals each called for a method of their own. There was, however, one common principle which was maintained throughout—the minimum of interference with normal management. The detailed management and operation of all services was in the hands of professional transport men, and such central direction as there must be, in order to integrate national policy, was exercised in the closest consultation with the leaders in the several sections of the transport world.

On the railways the demands of Government traffic in war were so great and involved such extensive adjustment of normal services that, as in the last war, the Government must have the final control. General instructions to the general managers as to the operation of the railways in the event of war had been issued before the emergency arose; and when at midnight on September 1 the railways formally passed under the control of the Minister, the Railway Executive Committee, consisting of the four general managers of the main-line companies and a vice-president of the London Passenger Transport Board, with Sir Ralph Wedgwood as Chairman, was immediately able to assume duty as his agent for the purpose of railway control.

The needs of war traffic involved the adjustment of normal railway services. At the outset, faced as they were with evacuation of children from the large towns, mobilisation, the transport of the Expeditionary Force, and the vast mass of freight traffic which might be summed up in the words munitions and

supplies, with the probability of heavy air attacks and the handicaps of the blackout, drastic curtailment of ordinary services and facilities was unavoidable. Each week, however, had seen a progressive restoration or improvement as altered conditions and practical experiment had made them possible.

In dealing with road transport, it was necessary to set up an extensive regional organisation to enable the industry to adjust itself to the effects of the impressment of vehicles by the fighting services, the requisitioning of vehicles for civil defence and the reduction in the available supply of fuel. In order to effect the requisite economies in fuel and transport and to provide manageable units with which the organisation could deal, a scheme for grouping vehicles according to their size and function was put into operation. This scheme was evolved with the full approval of the Road Transport (Defence) Advisory Committee, composed of men with lifelong experience in operating road transport, of representatives of labour engaged in the industry, and of the railways.

For general civil defence purposes the country had been divided into defence regions, and in each of them the peacetime Chairman of Traffic Commissioners, with all his detailed local knowledge of the industry, had become the Regional Transport Commissioner responsible for the organisation of road transport. The control and fuel rationing of public service vehicles, most of which are run by large concerns, was centred in the Regional Transport Commissioner's office; but for goods vehicles a much greater degree of decentralisation had been necessary. To deal with these vehicles each region was divided into districts in charge of a district transport officer—who was a civil servant responsible to the Regional Transport Commissioner—and each district was again divided into sub-districts where the man in charge was the sub-district manager—a practical transport man chosen by the operators through their own group organisers and who was in effect the liaison officer between the official machinery and the actual operators. The contact between the machinery of control and the operators was further strengthened by the fact that both the regional transport commissioners and the district transport officers were assisted by advisory committees consisting of representatives of road transport operators, railways and labour.

For obvious reasons not much could be said about the port organisation of the Ministry, bearing directly as it did on the measures taken to protect shipping from enemy action. It would, however, be obvious that some diversion of ships from their normal ports of call had been and might continue to be necessary, and that rapid clearance

of goods through the ports was of the highest importance. In each of the principal commercial ports, a port emergency committee had been appointed with wide powers to see that ports were used to their fullest capacity and goods passed through as quickly as possible. These committees consisted of representatives of the port authority, ship-owners, traders, road, rail and canal transport and labour; each committee acted collectively as the Minister's agent.

Canals, and the carriers who operated on them, carried in normal times a substantial part of the traffic in the areas which they served, and in wartime might be called upon to make an even greater contribution to the national transport requirements. With a view to making the best use of this form of transport, a Canal (Defence) Advisory Committee composed of representatives of canal owners and carriers and of Government departments interested in canal transport had been appointed.

Captain Wallace then referred to petrol rationing, which, he said, was not some Machiavellian device of a wicked Government that seeks to discriminate against road transport for the benefit of the railways. Rationing was necessary because of the heavy demands on liquid fuel by mechanised warfare, as well as because of the difficulties of buying and transporting it from abroad. He was encouraging the use of alternative fuels. Finally the Minister spoke of the postponement of road improvement schemes, and the monetary saving effected thereby.

RAILWAY BENEVOLENT INSTITUTION. The Railway Benevolent Institution Casualty Fund Collection is now being made. 1s. subscription secures a return of about 3s. 6d. a week whilst disabled by accident (£5 maximum); £5 to the widow of a member killed; and £3 to the widow of a member dying from natural causes during the year of membership. Benefits are paid irrespective of other income. Subscriptions will be received by any stationmaster or agent, from whom particulars are available. A New Year's Day collection in aid of the Railway Benevolent Institution will be made on Monday, January 1, at all railway stations in Great Britain and Ireland. The number of railway employees who became members of this year's Casualty Fund was 164,107, and assistance has been rendered to no fewer than 88 widows of men killed, 598 widows of men dying from illness, and 4,799 men accidentally injured, making a total of 5,485 cases relieved, or one in every 30 contributors. The amount required to enable the board to carry on efficiently the good work undertaken and to meet the constant flow of new applications from necessitous widows, orphans, and permanently disabled railway workers, for relief from the general fund, continues to increase, and it is hoped that the travelling and benevolent public will generously augment the contributions of the railwaymen.

NOTES AND NEWS

Railway Freight Rebates Scheme.

—The Railway Rates Tribunal will sit at 10.30 a.m. on Friday, December 29, in Court "A," Judges Quadrangle, Royal Courts of Justice, London, W.C.2, to review the operation of the Railway Freight Rebates Scheme for the year ending September 30, 1939.

L.N.E.R. Films.

—Despite the war, the L.N.E.R. is continuing its facilities for the loan of 16 mm. non-flam travel and interest films. These films can be borrowed by *bona fide* officials of societies, clubs, schools, and so forth, who have their own projectors and where no admission fee is charged. Some of the films available include a sound track. Full details may be obtained from the Advertising Manager, L.N.E.R., London, N.W.1; or from the company's offices at York and Edinburgh.

Road Accidents in November.

The return of the numbers of persons reported to have died in Great Britain during November as the result of road accidents, shows a total of 926. This compares with 613 in November, 1938; the October figures were 919 in 1939 and 641 in 1938; and the September figures were 1,130 in 1939 and 554 in 1938. Adult pedestrians suffered the most in November, 1939, with 561 fatalities, against 233 in November, 1938. Among motor cyclists, on the other hand, the fatalities declined from 90 in November, 1938, to 82 in November, 1939, and among adult pedal cyclists from 126 to 99. During the hours of darkness 496 adult pedestrians, 49 motor cyclists, and 60 adult pedal cyclists were killed in November, 1939.

L.M.S.R. Directors.

—In the Chancery Division on December 11, Mr. Justice Simmons dismissed an action brought against the L.M.S.R. by Mr. John Wilson, of Accrington, claiming a declaration that there is power to remove directors of the company by resolution at the annual general meeting, Mr. Justice Simmons said that Mr.

Wilson had given notice to the Secretary of the company that he intended to move at the annual general meeting of the company on February 24 "that it be compulsory for all directors who have attained the age of 70 to retire from the board without further reward or remuneration." His Lordship added that the absence of notice of the resolution from the advertisement convening the meeting concluded the matter; but the plaintiff and those who thought with him could call an extra-ordinary general meeting to deal with this grievance.

Irish Railway Valuations.

—Judgment was reserved on December 6 by the Supreme Court, Dublin, in the case stated by Circuit Judge Davitt on the appeals of the Great Northern Railway Company and the Great Southern Railways Company from the valuation made on them by the Commissioner of Valuation. The Circuit Judge asked the Supreme Court to determine whether he was right in rejecting the method of estimating the capital value of the tenant's chattels adopted by the parties. The valuation put on the Great Northern undertaking in Eire was £17,500, and on the Great Southern was £183,023. The arguments before the Supreme Court occupied six days.

John I. Thornycroft & Co. Ltd.

—On the motor vehicle side of the business of John I. Thornycroft & Co. Ltd. during the year ended July 31 last, the company's exports represented 20 per cent. of the total sales, and in the marine motor and motorboat sales it was as high as 75 per cent. These figures were given by the Managing Director (Sir John E. Thornycroft, K.B.E.) at the recent annual meeting. He also mentioned that at Woolston there was a very substantial proportion of work for foreign Governments and for commercial purposes. Work in progress was much above any previous figures, and every effort was being made to increase output.

British and Irish Railway Stocks and Shares

Stocks	Highest 1938	Lowest 1938	Prices	
			Dec. 12, 1939	Rise/ Fall
G.W.R.				
Cons. Ord. . .	65½	25¾	34	—
5% Con. Prefce. . .	118¾	74	87	+1
5% Red. Pref. (1950) . .	111¾	90	93½	—
4% Deb. . .	111	97½	100½	—
4½% Deb. . .	112½	100½	102	—
4½% Deb. . .	118½	104	105½	—
5% Deb. . .	131½	119	117½	—
2½% Deb. . .	69¾	60	58½	—
5% Rt. Charge . .	129	114	111	+2
5% Cons. Guar. . .	128½	103	107	—
L.M.S.R.				
Ord. . .	30½	11	12¼	+1
4% Prefce. (1923) . .	70¼	23	41½	+1
4% Prefce. . .	82¼	43¾	59½	+1
5% Red. Pref. (1955) . .	103½	66	77	+1
4% Deb. . .	105½	85	90½*	—
5% Red. Deb. (1952) . .	114¼	105	105	—
4% Guar. . .	102¾	77½	82½	—
L.N.E.R.				
5% Pref. Ord. . .	89½	31½	3¾	—
Def. Ord. . .	47½	21½	21	—½
4% First Prefce. . .	68¼	21	37	+2½
4% Second Prefce. . .	27¼	8	11½	+2½
5% Red. Pref. (1955) . .	97	40¼	48	+1
4% First Guar. . .	97½	66¼	73½	—
4% Second Guar. . .	91¼	52	64½	+1
3% Deb. . .	79¼	80	64½*	—
4% Deb. . .	104½	77	85½*	—
5% Red. Deb. (1947) . .	110½	97	100½	—
4½% Sinking Fund Red. Deb. . .	108½	101	99½*	—1
SOUTHERN				
Pref. Ord. . .	87	47½	65	+2
Def. Ord. . .	21¾	9¼	12	+1
5% Pref. . .	115	83	89	+1
5% Red. Pref. (1964) . .	115½	98	96½	—
5% Guar. Prefce. . .	128½	106	106½	—
5% Red. Guar. Pref. (1957) . .	116	108½	106½	—
4% Deb. . .	109¼	95	99½*	—1
5% Deb. . .	129	117	114½*	—2
4% Red. Deb. . .	107	101½	101½*	—1
4% Red. Deb. . .	—	—	101½*	—
1962-67 1970-80	—	—	—	—
BELFAST & C.D.				
Ord. . .	4	3½	4	—
FORTH BRIDGE				
4% Deb. . .	102	99½	87½	—
4% Guar. . .	103¼	94½	85½	+1
G. NORTHERN (IRELAND)				
Ord. . .	5½	2½	6	—
G. SOUTHERN (IRELAND)				
Ord. . .	25½	8½	13	—
Prefce. . .	35	13	23½	+2
Guar. . .	70¼	30½	37	+2
Deb. . .	83	56	54½	+2
L.P.T.B.				
4½% "A" . .	119½	107½	107½	—
5% "A" . .	130	117	110½	+1
4½% "T.F.A." . .	108	98	104	—
5% "B" . .	122½	105	105½	—
"C" . .	84	68	65	—½
MERSEY				
Ord. . .	24¼	16½	20½	+2
4% Perp. Deb. . .	102½	94½	90	—
3% Perp. Deb. . .	77	64	65½	—
3% Perp. Prefce. . .	66½	57	52½	—

* ex dividend

Irish Traffic Returns

IRELAND		Totals for 49th Week			Totals to Date		
		1939	1938	Inc. or Dec.	1939	1938	Inc. or Dec.
		£	£	£	£	£	£
Belfast & C.D. (80 miles)	pass.	1,961	1,503	+ 458	126,934	120,026	+ 6,908
	goods	684	403	+ 291	23,390	21,571	+ 1,819
	total	2,655	1,906	+ 749	150,324	141,597	+ 8,727
Great Northern (543 miles)	pass.	9,200	8,000	+ 1,200	549,900	537,600	+ 12,300
	goods	11,650	9,150	+ 2,500	545,200	460,150	+ 85,050
	total	20,850	17,150	+ 3,700	1,095,100	997,750	+ 97,350
Great Southern (2,076 miles)	pass.	30,651	30,732	— 81	1,788,391	1,793,759	— 5,368
	goods	60,283	59,198	+ 1,085	2,247,610	2,070,861	+ 176,749
	total	90,934	89,930	+ 1,004	4,036,001	3,864,620	+ 171,381
L.M.S.R. (N.C.C.) (271 miles)	pass.	3,900	2,870	+ 1,030	229,560	219,330	+ 10,230
	goods	3,390	2,720	+ 670	150,170	129,810	+ 20,360
	total	7,290	5,590	+ 1,700	379,730	349,140	+ 30,590

OFFICIAL NOTICES

Crown Agents for the Colonies

COLONIAL GOVERNMENT APPOINTMENTS.

APPLICATIONS from qualified candidates are invited for the following post:—

SECTION ENGINEER required for the Nigerian Government Railway for two tours each of 12 to 24 months, with prospect of permanency. Salary, £475 to £500 a year. Free passages and quarters and liberal leave on full salary. Candidates, age 23 to 35, should be Corporate Members of the Institution of

Civil Engineers or possess an engineering degree recognised as granting exemption from Sections A and B of the A.M.I.C.E. examination, and have had experience in Railway engineering, bridge and reinforced concrete construction. Candidates who are students of the Institution of Civil Engineers and have had the requisite practical experience, are also eligible for consideration.

Apply at once by letter, stating age, whether married or single, and full particulars of qualifications and experience, and mentioning this paper to the Crown Agents for the Colonies, 4, Millbank, London, S.W.1, quoting M/9071.

OFFICIAL ADVERTISEMENTS

OFFICIAL ADVERTISEMENTS intended for insertion on this page should be sent in as early in the week as possible. The latest time for receiving official advertisements for this page for the current week's issue is noon on Wednesday. All advertisements should be addressed to:—*The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

RAILWAY AND OTHER REPORTS

L.M.S.R. Preference Stock.—A balance of the London Midland & Scottish Railway Company's five per cent. redeemable preference stock will be struck at the close of business on December 21.

Metropolitan Railway Country Estates Limited.—The directors recommend a dividend of 6 per cent. for the year ended October 31 last, transfer the sum of £10,000 to general reserve, and carry forward £32,671.

Hants & Dorset Motor Services Limited.—An interim dividend of 4 per cent., tax free, is announced, the same as a year ago.

Ribble Motor Services Limited.—An interim dividend of 4 per cent., less tax at 7s. in the £, was paid on November 15. A year ago the dividend was the same.

Dennis Bros. Limited.—A final dividend is announced of 10d. on each 1s. share, making 1s. 2d. a share for the year to September 30 last, compared with 1s. for 1937-38.

Northern Ireland Road Transport Board.—The board paid on December 7 last dividend arrears on the "A" stock up to June 30 last. The "A1" and "A2" stocks were merged into "A" stock on July 16, 1938. Interest payments were passed on December 31, 1938, and on June 30, 1939.

East Midland Motor Services Limited.—The profit for the year to September 30, 1939, was £17,623, against £19,268 for the previous year. Adding £11,386 brought in gives a total of £29,009. The dividend proposed is 7 per cent. tax free, against 10 per cent. During the year the issued capital was increased to £250,000 by the allotment of 62,500 £1 shares. The new garage at Mansfield and improvements to the Workshop garage have been completed. The company is controlled jointly by the L.M.S.R. and L.N.E.R. and by Tilling & British Automobile Traction Limited.

Scottish Motor Traction Co. Ltd.—This company, in which the London Midland & Scottish and the London & North Eastern Railway Companies have each a large shareholding, earned a net profit, after taxation, for the year ended October 31, 1939, of £378,880. A dividend of 10 per cent., tax free, is recommended, on the ordinary shares,

the same rate as a year ago, but on a larger capital, a scrip bonus of 25 per cent. having since been allotted. A further capital bonus of 25 per cent. was recently announced.

East Yorkshire Motor Services Limited.—This company, controlled jointly by the L.N.E.R. and Tilling & British Automobile Traction Limited, reports a total revenue for the year ended September 30, 1939, of £320,295, in comparison with £310,956 for the year 1936-37. After deducting all expenses and providing for depreciation, there is a balance of £47,429 (against £41,858) which, with £8,514 brought forward, makes a total of £55,943, against £48,514. The appropriation to general reserve is £10,000, the same as in the previous year, and the dividend is again 10 per cent., requiring £30,000, leaving £15,943 to

be carried forward. Owing to war conditions, services have had to be curtailed substantially, but it is not yet possible to estimate the effect upon the company's finances.

United Automobile Services Limited.—For the year ended September 30, 1939, this company which is controlled jointly by the L.N.E.R. and Tilling & British Automobile Traction Limited, is paying a dividend of 9 per cent., tax free, the same as for the previous year.

Kendall & Gent (1920) Limited.—The final dividend recommended for the year to September 30, 1939, is 10 per cent., plus a bonus of 5 per cent., making with the interim dividend of 5 per cent. paid last August, a total distribution of 20 per cent. For the year 1937-38 the dividend was the same, but the bonus was 2½ per cent. The net profit for 1938-39 was £42,673, against £36,177.

CONTRACTS AND TENDERS

P. & W. McLellan Limited has received an order from the Junagad State Railway for 23 tons of general steel plates and angles, to the inspection of Messrs. Robert White & Partners.

Ibbotson Bros. Ltd. has received an order from the Morvi Railway for 74 volute springs, to the inspection of Messrs. Robert White & Partners.

The Bengal-Nagpur Railway has placed the following orders:—

Jonas Woodhead & Sons Ltd.: 120 laminated springs (loco.).

English Steel Corporation Limited: Laminated springs (carriage and wagon).

Clifton & Baird Limited: One sawing machine.

Caprotti Valve Gears Limited: Valve gear spares.

Associated Locomotive Equipment Co. Ltd.: 5 sets of FTS-class cylinders.

The Portuguese Railways have ordered 28 stainless steel lightweight passenger coaches from the E. G. Budd Manufacturing Company, of Philadelphia. The order is being financed through the Export-Import Bank (U.S.A.) and the Bank of Portugal, and is the first major order placed since the recent American loan of \$10,000,000 to Portugal.

The Portuguese Railways are enquiring for 12 diesel locomotives (type of transmission left open) of 150 to 350 b.h.p. for service on the 5-ft. 6-in. gauge lines. A result of the recent extension

of American influence in Portugal is that quotations must be on a \$ basis.

The India Stores Department has placed the following orders:—

Burn & Co. Ltd.: 746 steel tyres.

W. Evans & Co. Ltd.: 20 steel crank axles.

Guest, Keen, Williams Limited: 100 locomotive tyres.

Heatly & Gresham Limited: One railway wagon weighbridge.

Wota (India) Limited: 100 cast steel buffers.

The Egyptian State Railways are enquiring for 750 pickaxes and 2,000 pick beaters for ballast (No. E.S.R. 10.225). Other enquiries are for

41,000 copper binders and 36,000 steel pole steps (E.S.R. 34.1232); and paint, including knotting varnish and whitening (E.S.R.) 60.420. Particulars from the Chief Inspecting Officer, 41, Tothill Street, London, S.W.1.

The South African Railways are calling for tenders by January 4 for galvanised universal signal pulleys, 10,000 with 2-in. and 20,000 with 3-in. double pressed wheels. Quotations will also be considered for cast wheels. (Tender No. 2478: D.O.T. Ref. No. T.29472/39.)

The South African Railways are calling for tenders to be in at Johannesburg by January 8, 1940, of carriage fittings, including brass nets, catches, handles, hinges, sanitary equipment, brass angles and strips. Tender No. 2423. (D.O.T. Ref. No. T.29350/39.)

Railway Share Market

Although the undertone of most sections of the Stock Exchange has been steady, the volume of business failed to improve, and no important change in market conditions is generally expected until after the turn of the year. Exceptionally, home railway securities continued to attract a good deal of attention, and most of the junior stocks made improved prices, sentiment having remained under the belief that higher levels will be justified, assuming market anticipations in respect of the terms of Government compensation are realised. A good deal of speculative activity was shown in L.N.E.R. first preference, which, it is being pointed out, is undervalued in relation to L.M.S.R. 1923 preference, if the full 4 per cent. dividend is to be paid during the war period. The market is, in fact, talking of the possibility of dividends of 1 per cent. on L.N.E.R. second preference, L.M.S.R. ordinary and Southern deferred. This has been reflected by moderate improvement in prices; but, in common with all the junior stocks, they must, of course, be regarded as carrying a fairly large speculative element, pending the official announcement as to Government compensation. Debentures were quite well main-

tained, and where lower, prices are "ex" half-yearly interest payments. In many cases yields on debentures are not unattractive, bearing in mind their high investment status, and prices will no doubt show further improvement when there is a renewed rise in gilt-edged stocks, the trend in which, of course, governs that in good class fixed-interest securities.

As compared with a week ago, L.N.E.R. first preference further improved from 34½ to 37, while the second preference was three points better at 11½. Whereas the first guaranteed stock was unchanged at 73, the second guaranteed was fractionally higher at 65. Following deduction of the half-yearly interest payments, the 4 per cent. debentures were 85 and the 3 per cent. debentures 64½. L.M.S.R. ordinary moved up to 12½, while the 1923 preference, which was 40½ a week ago, has strengthened to 42, and the 4 per cent. first preference from 58½ to 59½. The 5 per cent. debentures remained at 105 and the 4 per cent. debentures were 90½. At 82 the guaranteed stock was unchanged on balance. Great Western ordinary has risen four points to 34, sentiment being influenced by market hopes that the dividend on this stock may be 3 per cent. At 86½ the 5 per cent. preference showed a fractional gain, and the 5 per cent. guaran-

teed continued at 107. The 4 per cent. debentures were again 100½. Among Southern stocks the preferred has been outstanding with a rise to 65, and moreover the deferred was nearly a point higher at 11½. At 107½ the 5 per cent. guaranteed was unchanged on balance, but the 5 per cent. preference improved to 89 and the 4 per cent. debentures were 99 xd. Elsewhere, London Transport "C" remained at the official minimum price of 65, but the 5 per cent. "A" stock was higher at 111½.

Foreign railway securities reflected the inactive conditions obtaining in most sections of the Stock Exchange. Leopoldina debentures were higher at 17 as a result of some speculative buying on hopes of a possible resumption of interest payments next month. San Paulo at 38 were firm in sympathy with the better tendency in Brazilian stocks generally. Among Argentine rails, B.A. Great Southern, B.A. Western and Central Argentine were inclined to improve, but less attention was given to debenture and preference stocks. B.A. Great Southern 4 per cent. debentures were better at 64½, as were Central Argentine 5 per cent. debentures at 69. Cordoba Central debentures were fairly active. Canadian Pacific lost part of an earlier improvement.

Traffic Table of Overseas and Foreign Railways Publishing Weekly Returns

Railways	Miles open 1938-39	Week Ending	Traffic for Week		No. of Weeks	Aggregate Traffic to Date			Shares or Stock	Prices						
			Total this year	Inc. or Dec. compared with 1938		Totals		Increase or Decrease		Highest 1938	Lowest 1938	Dec. 12, 1939	Yield % (See Note)			
						This Year	Last Year									
South & Central America	Antofagasta (Chili) & Bolivia	834	3.12.39	£ 16,630	+	£ 980	48	£ 664,830	£ 721,790	-	£ 56,960	Ord. Stk.	14	71½	81½	Nil
	Argentine North Eastern	753	2.12.39	ps. 147,800	+	—	23	ps. 3,713,300	ps. 3,838,500	-	ps. 125,200	Ord. Stk.	61½	2	21½	Nil
	Bolivar	174	Nov. 1939	4,680	+	1,780	48	47,530	40,100	+	7,430	6 p.c. Deb.	8	7	7	Nil
	Brazil	—	—	—	—	—	—	—	—	—	—	Bonds	10	4	6	85½
	Buenos Ayres & Pacific	2,801	2.12.39	ps. 1,316,000	-	ps. 65,000	23	ps. 26,764,000	ps. 26,473,000	+	ps. 291,000	Ord. Stk.	61½	31½	41½	Nil
	Buenos Aires Central	180	21.10.39	\$107,700	-	\$5,400	17	\$1,934,600	\$2,045,700	-	\$111,100	Mt. Deb.	15½	8	11	Nil
	Buenos Ayres Gt. Southern	5,082	2.12.39	ps. 2,366,000	+	ps. 72,000	23	ps. 43,834,000	ps. 44,932,000	-	ps. 1,098,000	Ord. Stk.	175½	81½	91½	Nil
	Buenos Ayres Western	1,930	2.12.39	ps. 808,000	+	ps. 124,000	23	ps. 5,811,000	ps. 4,617,000	+	ps. 1,194,000	"	125½	5	71½	Nil
	Central Argentine	3,700	2.12.39	ps. 1,774,750	+	ps. 22,900	23	ps. 41,655,100	ps. 37,281,200	+	ps. 4,373,900	"	131½	55½	8	Nil
	Do.	—	—	—	—	—	—	—	—	—	—	Dfd.	6	21½	21½	Nil
	Cent. Uruguay of M. Video	972	2.12.39	26,375	+	4,870	23	398,833	399,604	-	771	Ord. Stk.	3	11½	21½	Nil
	Costa Rica	188	June 1939	25,240	-	6,129	52	270,756	314,399	-	43,643	Stk.	28	22½	22½	87½
	Dorada	70	Nov. 1939	13,700	-	600	48	150,400	178,100	-	27,700	1 Mt. Db.	105½	104	102½	57½
	Entre Rios	810	2.12.39	ps. 209,600	-	ps. 35,500	23	ps. 5,604,700	ps. 5,680,800	-	ps. 56,100	Ord. Stk.	71½	31½	5	Nil
	Great Western of Brazil	1,016	2.12.39	14,800	+	500	48	423,900	366,800	+	57,100	Ord. Sh.	3/-	1/-	1½	Nil
	International of Cl. Amer.	794	Oct. 1939	\$450,759	+	\$59,932	43	\$4,937,141	\$4,580,780	+	\$356,361	"	—	—	—	—
	Iberoceanic of Mexico	—	—	—	—	—	—	—	—	—	—	1st Pref.	6d.	6d.	1½	Nil
	La Guaira & Caracas	22½	Nov. 1939	7,055	+	3,060	48	67,780	57,105	+	10,675	Stk.	8	61½	71½	Nil
	Leopoldina	1,918	2.12.39	27,040	-	1,392	48	1,021,683	1,037,670	-	15,987	Ord. Stk.	4	1	21½	Nil
	Mexican	483	7.11.39	\$226,200	-	\$13,900	18	\$4,886,300	\$4,890,600	+	\$4,300	"	1½	1½	1½	Nil
	Midland of Uruguay	319	Oct. 1939	8,389	-	921	18	34,490	34,366	+	124	"	7½	1½	1½	Nil
	Nitrate	386	30.11.39	5,325	-	567	48	110,420	132,806	-	22,386	Ord. Sh.	52½	191½	13½	71½
Paraguay Central	274	2.12.39	\$3,136,000	-	\$601,000	23	\$7,933,000	\$68,083,000	+	\$2,850,000	Pr. Li. Stk.	60	55½	40	15	
Peruvian Corporation	1,059	Nov. 1939	61,795	-	536	22	316,494	340,673	-	24,179	Pref.	55½	2	2	Nil	
Salvador	100	11.11.39	\$13,025	-	43,825	19	\$187,307	\$226,789	-	\$39,482	Pr. Li. Db.	23	20	15	Nil	
San Paulo	153½	26.11.39	35,892	+	8,300	47	1,472,538	1,509,206	-	36,688	Ord. Stk.	64	28	38	51½	
Taltal	160	Oct. 1939	3,360	-	525	17	7,785	11,785	-	4,000	Ord. Sh.	15½	1	9½	87½	
United of Havana	1,353	2.12.39	17,885	+	4,995	23	382,744	355,204	+	27,540	Ord. Stk.	36½	1½	1	Nil	
Uruguay Northern	73	Oct. 1939	962	-	158	18	3,634	3,899	-	265	Deb. Stk.	2	1	2	Nil	
Canada	Canadian National	23,691	30.11.39	1,301,039	+	278,795	48	36,954,773	33,411,534	+	3,543,239	—	—	—	—	—
	Canadian Northern	—	—	—	—	—	—	—	—	—	4 p.c. Gar.	72	60	73½	51½	
	Canadian Pacific	17,171	30.11.39	951,200	+	143,800	48	27,509,800	26,062,200	+	1,447,600	Ord. Stk.	87½	41½	7	41½
India	Assam Bengal	1,329	31.10.39	50,452	-	6,159	29	883,890	841,058	+	42,832	Ord. Stk.	81½	70	61½	47½
	Barsi Light	202	31.10.39	2,565	-	2,647	29	66,930	84,112	-	17,182	Ord. Sh.	60½	54½	45	87½
	Bengal & North Western	2,096	20.11.39	65,412	-	10,063	8	332,649	377,760	-	45,111	Ord. Stk.	311	278	233	79½
	Bengal Doers & Extension	161	20.11.39	4,971	-	128	32	91,440	98,676	-	7,236	"	89	83	87½	71½
	Bengal-Nagpur	3,267	10.11.39	221,475	+	24,758	30	4,717,680	4,161,137	+	556,543	"	95½	90	83½	41½
	Bombay, Baroda & Cl. India	2,986	30.11.39	294,750	+	49,650	34	5,703,225	5,697,675	+	5,550	"	112½	95	99½	6
	Madras & Southern Mahratta	2,967	20.11.39	136,350	-	15,625	32	3,555,880	3,479,026	+	76,854	"	108	97	99½	71½
	Rohilkund & Kumaon	571	20.11.39	12,725	-	233	8	63,721	64,947	-	1,226	"	308	285	240	71½
	South Indian	2,531½	10.11.39	98,522	-	2,345	30	2,523,279	2,537,662	-	14,383	"	104	101	87½	51½
Various	Beira	204	Sept. 1939	83,772	-	486	19	971,039	65,905	+	1,643	Prf. Sh.	—	5/6	1½	Nil
	Egyptian Delta	623	10.8.39	5,875	+	11,295	21	67,548	1,309,332	-	88,462	"	—	—	—	—
	Kenya & Uganda	1,625	May 1939	206,557	-	3,516	13	36,618	44,686	-	8,068	B. Deb.	49	41	47	77½
	Manila	—	—	—	—	—	—	—	—	—	Inc. Deb.	93½	89	88	49½	
	Midland of W. Australia	277	Sept. 1939	13,513	-	4,024	29	818,123	856,432	-	38,309	"	—	—	—	—
	Nigerian	1,900	14.10.39	25,394	-	52	42	4,137,769	—	—	—	—	—	—	—	—
	Rhodesia	2,442½	Sept. 1939	400,529	-	32,360	34	21,679,393	20,558,789	+	1,120,604	"	—	—	—	—
	South Africa	3,284	18.11.39	653,905	+	64,636	9	1,383,157	1,479,248	-	96,091	"	—	—	—	—
Victoria	4,774	Aug., 1939	698,267	-	—	—	—	—	—	—	—	—	—	—	—	

NOTE. Yields are based on the approximate current prices and are within a fraction of 1½ Argentine traffic are now given in pesos. † Receipts are calculated @ 1s. 6d. to the rupee.

§ ex dividend